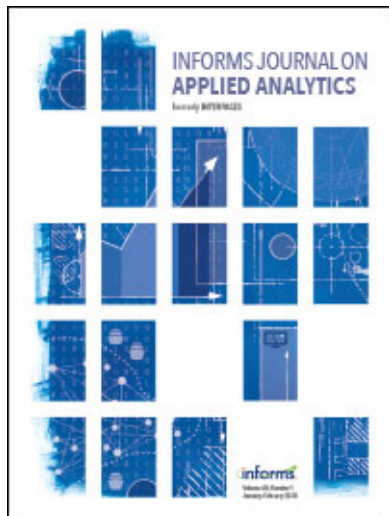




Interfaces

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Book Reviews

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To cite this article:

Wenjing Shen (2017) Book Reviews. Interfaces 47(2):188-190. <https://doi.org/10.1287/inte.2017.0888>

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Book Reviews

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<http://dx.doi.org/10.1287/inte.2017.0888>

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Abstract. In *Book Reviews*, we review an extensive and diverse range of books. They cover theory and applications in operations research, statistics, management science, econometrics, mathematics, computers, and information systems. In addition, we include books in other fields that emphasize technical applications. The editor will be pleased to receive an email from those willing to review a book, with an indication of specific areas of interest. If you are aware of a specific book that you would like to review, or that you think should be reviewed, please contact the editor. The following books are reviewed in this issue of *Interfaces*, 47(2), March–April 2017: *Forest Value Chain Optimization and Sustainability*, Sophie D'Amours, Mustapha Ouhimmou, Jean-François Audy, and Yan Feng, eds.; *Rise of the Robots: Technology and the Threat of a Jobless Future*, Martin Ford.

D'AMOURS, SOPHIE, MUSTAPHA OUHIMMOU, JEAN-FRANÇOIS AUDY, YAN FENG, EDS. 2016. *Forest Value Chain Optimization and Sustainability*. CRC Press. 358 pp. \$129.95.

This book provides an in-depth review of past and present research conducted throughout Canada on the areas of forest value-chain optimization and sustainability. The authors have divided the book's 12 chapters into three sections. Section I is *Forest Biorefinery Transformation and Strategic Planning*; Section II is *Forest Value Chain Sustainability, Market Research, Collaboration and Agility*; and Section III is *Forest Value Chain Tactical Planning and Wood Flows*. Well-regarded researchers and scholars in the field of forest value-chain optimization have authored each chapter, and each chapter supports the others in creating the theme of the book: the creation of an efficient forest value chain. This book makes a tangible contribution to the field because it provides a single collective space for the authors' wide-ranging research on forest value-chain optimization.

Forest Value Chain Optimization and Sustainability describes the national collaborative effort in Canada, involving national and provincial government, universities, and national research centers, to develop a plan to improve the performance of the Canadian forest products industry. It describes situations based on research completed in Canada; one example is the large percentage of timberland owned by the national or

provincial governments, which permits the development of uniform standards of characterization of the forest resources. This presents an opportunity to apply economies of scale that may not be available to other landowners. However, the book, which can serve as a guide to competing in the increasingly global wood market, could also be a valuable resource for non-Canadian organizations.

One weakness is the limited discussion of the important role of change management, which is required to address the large workforce changes necessary to optimize the forest value chain. For example, Chapter 9 describes increasing the agility of a sawmill with accurate information about log supplies; however, questions remain on whether the industry has the available skills to capture these data and whether technology will replace existing workers or merely change their roles. Often, these human problems are the biggest stumbling blocks to implementing value-chain optimization. I believe that these issues alone could comprise an entire book.

This volume could be valuable to a variety of groups. I would recommend it to managers as one that provides an overview of the need to work together within the value chain to improve its competitiveness. For example, Chapter 2.2.2 describes the problems in the modern commercial organization when the size of the supply chain and the number of actors in the

supply chain lead to unwieldy complexity. As the authors demonstrate (and I agree), the forest value chain becomes more complicated as these actors are each pushed to become profit centers. This focus on profit alone can promote myopic decision-making techniques. The chapter addressing strategic transformation of the forest industry value chain provides an excellent example of how to transform a pulp mill that produces commodity products into one that produces a new range of products that support business growth. Managers can utilize this book's research and findings to help promote collaboration, synchronization, and agility within their businesses, rather than adversarial relationships with other businesses.

Policy makers in many countries could use this volume to review how existing resources, such as the raw material and transportation infrastructure, can support new forest industries. Strategic planning from these efforts can help buoy rural sectors of developed countries that are continuing to suffer from poor economic conditions. It describes the need for collaborative approaches to develop and maintain industries to improve the economies of rural communities.

It could also be of value to graduate students and researchers, because one of its strengths is its description of the variety of decision support systems used to assist managers in implementing an improved forest value chain. The formulations are well-defined and easy to follow and will support others doing research in value-chain optimization.

The chapter on corporate social responsibility provides another view of opportunities to add to the forest value chain. It provides examples ranging from the individual firm to the creation of public-private partnerships to promote environmental protection. A case study of the Catalyst Papers supply chain provides an interesting description of the role of a multiple-party collaboration to create a carbon-neutral supply chain for a magazine.

Overall, this is an excellent book that will not sit idle on my shelf. I plan to share it with a variety of people across the field, because I believe it is the most complete work available on forest value-chain optimization. The authors and editors should be lauded for their efforts in putting together such a complete work in this area.

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FORD, MARTIN. 2015. *Rise of the Robots: Technology and the Threat of a Jobless Future*. Basic Books. 334 pp. \$28.99.

Few readers will take issue with the proposition that advances in technology have affected our lives and will continue to do so, sometimes dramatically. However, beyond this general point, it is important to comprehend the ways in which technological advances will affect our lives, either positively or negatively. The purpose of this thought-provoking book is to help shed light on this matter. The central question it asks is: "Can accelerating technology disrupt *our entire system* to the point where a fundamental restructuring may be required if prosperity is to continue?" (p. xviii).

The author, Martin Ford, begins by commenting on the wave of automation that we see in contemporary times. His modus operandi here and elsewhere in this book is to make general points with the help of anecdotes. For example, when he refers to Microsoft's Kinect add-on to the Xbox 360 game console, he notes that this add-on eliminated the need for a controller wand. With the Kinect technology, a user can create robots that can see in three dimensions. More generally, we can now design affordable machines that have "a nearly human-level ability to perceive and interact with [their] environment..." (p. 5). This has three implications for employment in the retail sector. First, online retailers, such as Amazon, eBay, and Netflix, will continue to disrupt the industry. Second, we are likely to see explosive growth in intelligent vending machines and kiosks. Finally, with the introduction of increased automation and robotics in stores, "brick and mortar" retailers will find it increasingly difficult to survive.

Along with many other observers, the author notes that jobs that involve the performance of routine tasks and those that require low skill levels are likely to be automated quickly, and that this will lead to steep employment declines in sectors that employ many of these unskilled workers. So far so good; however, the author makes a stronger point. He asserts that with recent advances in information technology and robotics, even white-collar jobs are increasingly at risk. He believes that organizations "are likely to flatten.

Layers of middle management will evaporate, and many of the jobs now performed by both clerical workers and skilled analysts will simply disappear” (p. 95). In addition, the author contends that improvements in software will “invade virtually every workplace and swallow up nearly any white-collar job that involves sitting in front of a computer manipulating information” (p. 107).

Forecasts that automation will make humans irrelevant have been made previously. During the Industrial Revolution, the so-called Luddites famously complained that textile machines would destroy their livelihoods. As Woirol (2006) notes, a headline in the *New York Times* on February 26, 1928 stated that the “march of the machines makes idle hands.” More recently, the advent of personal computers in the 1980s also gave rise to significant concerns about job losses. These concerns notwithstanding, the evidence available shows that rather than destroying jobs, automation frequently redefines them and, in the process, it reduces costs and stimulates demand. Although it is still too early to say definitively, this pattern appears to be holding for industries in which artificial intelligence, a big concern of the author, has been deployed.

When pondering the aggregate effects of robots and automation on the economy, it is important to keep both the negatives and the positives in mind. Technopessimists, such as this book’s author, focus unduly on the job losses; however, they say little about how automation affects the demand for labor. In this regard, the work of Autor (2015) shows that, *inter alia*, automation raises the value of tasks that only humans can perform. Unfortunately, Martin Ford appears to have succumbed to what economists call the “lump-of-labor” fallacy. That is, he incorrectly believes that there is a finite amount of work to do; hence, if we automate some of this work, then there would be less work for humans to do. As such, it is difficult to disagree with the contention in Mokyr et al. (2015, p. 47) that

“the more extreme of modern anxieties about long-term, ineradicable technological unemployment, or a widespread lack of meaning because of changes in work patterns seem highly unlikely to come to pass.”

The key question then is this: Will the technological disruptions being caused by the advent of robotics and automation be similar—in terms of their effects—to previous technological disruptions, or will they be different this time? Although automation will clearly disrupt labor markets and lead to some job losses, it is unlikely to lead to mass unemployment of the sort predicted by the very gloomy perspective of this book’s author. Ultimately, in this review of a book filled with anecdotes, it is perhaps apposite to conclude with one. In a short and forward-looking essay, John Maynard Keynes (Keynes 1930), perhaps the greatest economist of the 20th century, maintained that with rising living standards, the working week would be cut to about 15 hours per week and that people would have significant amounts of leisure time at their disposal. For Keynes, the problem was what people would do with this copious leisure time. Although the great man got many things right, this prediction of his has clearly turned out to be wrong. That one of the most astute economists of all time could be spectacularly wrong about an effect of technological advances should give us pause for thought. It seems unlikely that Martin Ford’s extremely saturnine vision of the future will come to pass.

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