

# **Studies in Systems, Decision and Control**

Volume 282

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Aleksei V. Bogoviz  
Editor

# Complex Systems: Innovation and Sustainability in the Digital Age

Volume 1

 Springer

*Editor*

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National Research University Higher School  
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ISSN 2198-4182

ISSN 2198-4190 (electronic)

Studies in Systems, Decision and Control

ISBN 978-3-030-44702-1

ISBN 978-3-030-44703-8 (eBook)

<https://doi.org/10.1007/978-3-030-44703-8>

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The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

# **Preface to Volume I: Perspectives on Innovation and Sustainability in Complex Systems**

This volume presents a timely collection of chapters addressing the issues of innovative and sustainable development of complex systems in the era of digital transformations. Presenting cutting-edge contributions by scientists, engineers, and field experts, this book provides the readers with a coherent framework for understanding the essence of complex systems and the nature of digital transformations, analyzes challenges and patterns of innovative development, as well as provides sustainability insights and best practices, resulting in the most extensive coverage of the topic available.

Divided into five parts, the volume, first of all, focuses on entrepreneurship, human capital development, and management approaches in an age of increasing complexity. Unique contributions provide perspectives on the contemporary highly complex and uncertain environments, in which business organizations have to operate regardless of their size and industry affiliation. Particularly, scholars describe an array of analytical and methodological approaches used for building and sustaining a technological potential of a business entity, developing human resources, increasing competitiveness, and improving management efficiency.

Second, social science scholars conduct a broad interdisciplinary analysis of collaboration mechanisms for supporting and accelerating sustainable development in complex systems through a collection of different theories that reveal novel and effective approaches. Their research covers successful intervention strategies, models of sustainable development, economic security in regional development, productive forces, sustainable green development, etc.

Third, the special focus is on how complex economic systems innovate and sustain themselves, taking into account the existing and expected digital changes and challenges. A separate short section provides a comparative analysis of information and communication technologies, their penetration, and creation of uneven information environments, enabling readers to explore the tremendous impact of digital technologies on sustainable economic development in various parts of the world.

Fourth, the authors explore the whole array of issues from the real-world practice, providing a number of case studies on the adoption of technological, service, and business model innovations in complex systems, with an emphasize on achieving higher sustainability.

Finally, this volume presents a multidisciplinary collection of original contributions on researching, building, and maintaining sustainable agricultural and food systems, relying on the developed insights, perspectives, and methodology of complex systems science.

There is no doubt that innovative and sustainable development of complex systems is an urgent research field, and this volume makes a unique contribution. Due to its practical focus, the book appeals to practitioners and policymakers working in economics, management, business, political science, and sustainability, not just academics. This is also a valuable resource for graduate students interested in the multidisciplinary research on complex systems research.

Moscow, Russia

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