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Titolo	Agent-Based Business Process Simulation : A Primer with Applications and Examples // by Emilio Sulis, Kuldar Taveter
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ISBN	3-030-98816-3
Edizione	[1st ed. 2022.]
Descrizione fisica	1 online resource (195 pages)
Collana	Computer Science Series
Disciplina	658.05
Soggetti	Computer science Business information services Application software Computer Science IT in Business Computer and Information Systems Applications Cicle de treball Gestió Sistemes multiagent Negocis Processament de dades Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Part I: Introduction and Background -- 1. Introducing Agent-Based Simulation for the Business Processes -- 2. The Analysis of Business Processes -- 3. Agents and Organization Studies -- Part II: The Agent-Based Perspective -- 4. Agent-Based Simulation with NetLogo -- 5. Agent-Oriented Modeling -- 6. The Agent-Based Business Process Simulation Approach -- Part III: Agent-Based Modeling for Business Process Management -- 7. Multi-Agent Systems and Business Process Management -- 8. Practical Applications -- 9. Beyond Process Simulation.
Sommario/riassunto	This book provides a conceptual clarification of the interconnections

between agent-based modeling and business process management (BPM) and presents practical examples of agent-based models dealing with BPM and simulation in NetLogo. The book is structured in three parts. Part I starts with the motivation for the work and introduces the general structure of the book. Next, chapter 2 provides a brief introduction to main BPM concepts including the business process lifecycle, which describes the analysis of an organization by means of modeling and simulation, business process performance indicators, and the automatic extraction of information from event data. Chapter 3 then offers a summary of the concept of agent and the studies concerning agent-based approaches that involve business process analysis and management studies. Part II of the book introduces in chapter 4 the NetLogo tool adopted throughout the remaining book. After that, chapter 5 focuses on agent-oriented modeling as a problem domain analysis and design approach for creating decision-support systems based on agent-based simulations. Chapter 6 further describes the topic of agent-based modeling and simulation for business process analysis. The final part III starts with chapter 7 that reviews some BPM applications by introducing programs enabling to manage models represented in standard formats, such as BPMN, Petri nets, and the eXtensible Event Stream standard language. Subsequently, chapter 8 describes a number of case studies from different areas, and eventually, chapter 9 introduces some examples of advanced topics of process mining and agent-based simulation with process discovery, conformance checking, and agent-based applications utilizing Petri nets. The book is primarily written for researchers and advanced graduate and PhD students who look for an introduction to the fruitful exploitation of agent-based modeling to business process management. The book is also useful for industry practitioners who are interested in supporting their business decisions with computational simulations. The book is complemented by a dedicated web site with lots of additional details and models in NetLogo for further evaluation by the reader.

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