



Managing Complexity

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Book Description

Managing Complexity is the first book that clearly defines the concept of Complexity, explains how Complexity can be measured and tuned, and describes the seven key features of Complex Systems:

1. Connectivity
2. Autonomy
3. Emergency
4. Nonequilibrium
5. Non-linearity
6. Self-organisation
7. Co-evolution

The thesis of the book is that complexity of the environment in which we work and live offers new opportunities and that the best strategy for surviving and prospering under conditions of complexity is to develop adaptability to perpetually

changing conditions. An effective method for designing adaptability into business processes using multi-agent technology is presented and illustrated by several extensive examples, including adaptive, real-time scheduling of taxis, sea-going tankers, road transport, supply chains, railway trains, production processes and swarms of small space satellites. Additional case studies include adaptive servicing of the International Space Station; adaptive processing of design changes of large structures such as wings of the largest airliner in the world; dynamic data mining, knowledge discovery and distributed semantic processing.

Finally, the book provides a foretaste of the next generation of complex issues, notably, The Internet of Things, Smart Cities, Digital Enterprises and Smart Logistics

Contents

PART 1 Fundamentals

1 What is complexity?

Defining Complexity
 Complex Versus Complicated
 Complexity and Uncertainty
 The Seven Criteria of Complexity
 Negative and Positive Aspects of Complexity
 Evolution Favours Complexity
 Co-Evolution of Technology, Economy and Society
 Complexity and Information Society
 Complexity and Philosophy

2 A method for managing complexity

Coping with External Complexity
 Tuning Internal Complexity
 Modelling Complexity
 Adaptability
 Designing Adaptive Business Processes

3 Multi-agent technology

Fundamentals
 MAS for Adaptive Resource Allocation
 Knowledge Base
 Virtual World
 Decision-Making
 Agent Negotiations
 Architecture
 Multi-Agent Platform
 Main Features of Our MAS
 Multi-Agent Software as a Complex Adaptive System
 Comparing Multi-Agent Software with Conventional Programs

4 Emergent intelligence

Fundamentals
 Evidence of Intelligent Behaviour
 Thermodynamics of the Virtual World

PART 2 Commercial applications

5 Adaptive scheduling of seagoing tankers

The Problem
 The Solution
 Results

6 Adaptive scheduling of taxis

7 Adaptive scheduling of car rentals

8 Adaptive scheduling of road transport

9 Adaptive data mining

10 Adaptive semantic processing

11 Adaptive detection of clashes caused by design changes

12 Adaptive scheduling of supply networks

13 Adaptive scheduling of services for the international space station

14 Adaptive scheduling of a fleet of satellites

15 Adaptive scheduling of high-speed railways

16 Adaptive scheduling of manufacturing

17 Adaptive management of service teams

18 Adaptive project management

PART 3 A roadmap into the future

19 A vision and ideas

A Shift from Personal to Business Applications
 The I o T
 Digital Enterprise
 Smart City
 Smart Logistics
 The story of managing complexity

References