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Titolo	Solving the Dynamic Complexity Dilemma : Predictive and Prescriptive Business Management: Answering the Need for a New Paradigm / / by Nabil Abu el Ata, Maurice J. Perks
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Soggetti	Computers Architecture Applied mathematics Engineering mathematics Assessment Business mathematics Models and Principles Architecture, general Mathematical and Computational Engineering Applications of Mathematics Assessment, Testing and Evaluation Business Mathematics
Lingua di pubblicazione	Inglese
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introducing and understanding the challenge -- Probability of uncertainty; Complexity Dynamics and how they can drag down the efficiency of a business -- Mathematics and Modeling -- Introduction to patterns, dynamic patterns and compound patterns -- Perturbation theory helps us -- Emulative deconstruction theory -- The components and characteristics of the solution -- Introduction to the WATCHWEB -- Proposed methodology for the WATCHWEB -- Conclusion.
Sommario/riassunto	Dynamic complexity results from hidden, un-known factors—or more precisely, interactions between factors—that can unexpectedly im-pact

the perfor-mance of systems. When the influences of dynamic complexity are not meas-ured and understood, new never-seen-before behaviors can come as unwelcomed surprises, which disrupt the performance of systems. Left alone, processes that were once prized for their effi-ciency unexpectedly begin to degrade—costs increase, while volumes and quality decline. Evidence of problems may come too late for effective resolution as technology advance-ments induce rapid change and compress the time available to react to that change. The results of dynamic complexity are always negative and unmanaged dynamic complexity can bring business or global systems to the point of sudden chaos. The 2009 H1N1 pandemic, 2008 Credit Crunch and 2011 Fukushima Daiichi nuclear disaster are global examples of the dangers of undiagnosed dynamic complexity. With increasing frequency executive leaders today are discovering that their business and IT system performance levels are not meeting expectations. In most cases these performance deficiencies are caused by dynamic complexity, which lies hidden like a cancer until the symptoms reveal themselves—often when it is too late to avoid negative impacts on business outcomes. This book examines the growing business problem of dynamic complexity and presents a path to a practical solution. To achieve better predictability, organizations must be able to expose new, dangerous patterns of behavior in time to take corrective actions and know which actions will yield the optimal results. The book authors promote new methods of risk management that use data collection, analytics, machine learning and automation processes to help organizations more accurately predict the future and take strategic actions to improve performance outcomes. The presented means of achieving this goal are based upon the authors' practical experiences, backed by scientific principles, and results achieved through consulting engagements with over 350 global organizations.