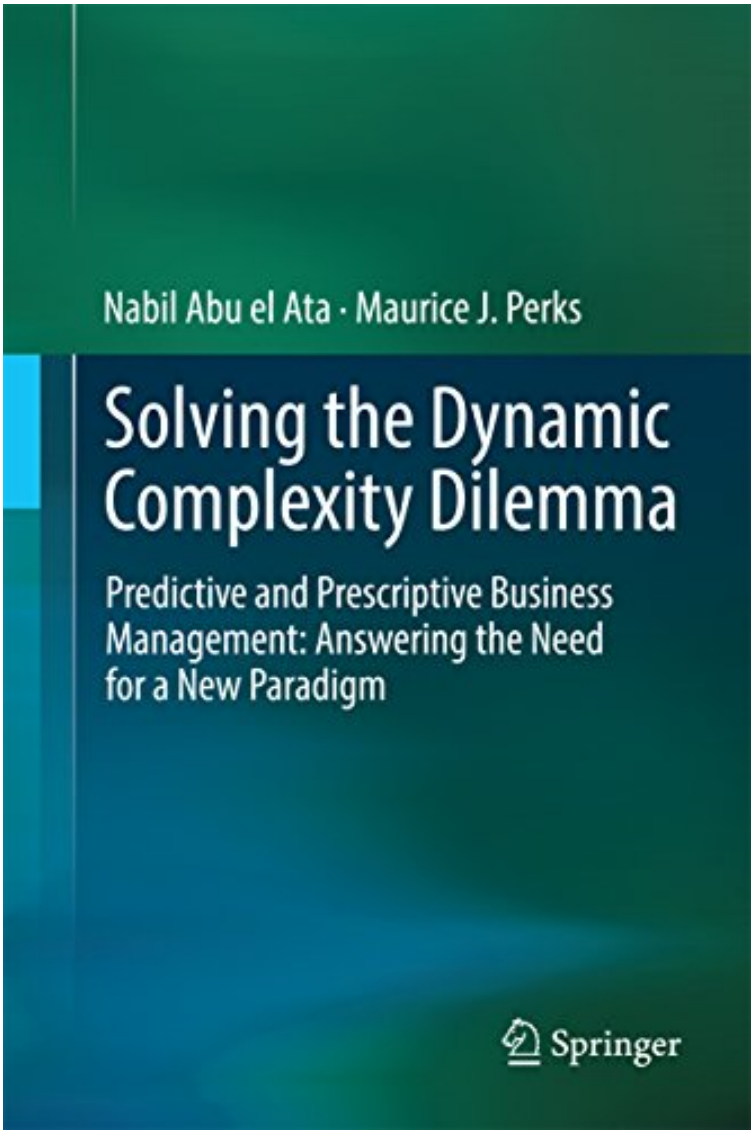
Solving the Dynamic Complexity Dilemma: Predictive and Prescriptive Business Management: Answering the Need for a New Paradigm

Nabil Abu el Ata, Maurice J. Perks



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Nabil Abu el Ata, Maurice J. Perks : Solving the Dynamic Complexity Dilemma: Predictive and Prescriptive Business Management: Answering the Need for a New Paradigm before purchasing it in order to gage whether or not it would be worth my time, and all praised Solving the Dynamic Complexity Dilemma: Predictive and Prescriptive Business Management: Answering the Need for a New Paradigm:

0 of 0 people found the following review helpful. Good Book with explanations.By IsleguardThis book starts out slowly but that may be because I am familiar with the topic. The second half of the book was right where I needed it to be. The explanations are fairly clear. I with that there was a little more detail with the math...but I worked it out.0 of 0 people found the following review helpful. Highly interesting, but not for those scared of mathematicsBy Markus WurzThis is an introduction into a new field of science via business. The authors claim to have found the solution to the age-old problem of multi-body-dependency. They use a software-supported approach that deals with the problems by (analytically) solving the mathematical equations underlying any system consisting multiple interdependent objects. Common approach is to iterate numerically instead, which leaves you with two problems: 1) huge number of calculations leads to large processing time and high cost. 2) The reason for singularities is shrouded by gigabytes of values. In Dr. Abu El Ata's approach, the cause for dramatic effects is maintained because the mathematical formulas remain intact and are flagged accordingly.This is the kind of science that we need to prevent or solve problems like financial crises. Good stuff.

Dynamic complexity results from hidden, unshy;knownnbsp;factorsmdash;or more precisely, interactions between factorsmdash;that can unexpectedly imshy;pact the perforshy;mance of systems. When the influences of dynamic complexitynbsp;are not measshy;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 effishy;ciencynbsp;unexpectedly begin to degrademdash;costs increase, while volumes and quality decline. Evidence of problems may come too late for effective resolution as technology advanceshy;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 themselvesmdash;often when it is too late to avoid negative impacts on business outcomes. This book examines the growing business problem of dynamic complexitynbsp;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 risknbsp;management thatnbsp;use data collection, analytics, machine learningnbsp;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 authorsrsquo; practical experiences, backed by scientific principles, and results achieved through consulting engagements with over 350 global organizations.

From the AuthorA book that explains the business impacts of dynamic complexitynbsp;and presents a practical solution is probably long overdue. For the last decade we have seen the compounding effects of dynamic complexitynbsp;become an increasingly significant and counterproductive force within businesses. Yet the ideas for this book probably could not have been realized earlier in our lives as practitioners or in my evolution as a solution provider. To document and contribute meaningfully to the science of business management, one must have many opportunities to work on problems, which are endemic to business, and have access to a lot of people who are willing to share their experiences and results they have achieved using the proposed technologies and methodologies. Happily, our clients, partners and joint collaborators have willingly supported our work and accompanied us in our achievements, which have brought us to this point.nbsp; nbsp; The purpose of this book is to promote a better understanding of how dynamic complexitynbsp;creates risknbsp;in the execution of business plans and introduce improved ways for management to predict, evaluate and when necessary, respond to mitigate risks that hinder the realization of performance goals. This book is intended for anyone who wants to explore new and better ways of predicting the future behavior of commercial systems, i.e. a global financial system, or natural patterns, like weather, and managing these systems with better certainty. nbsp; Business, information and technology executives, as well as government leaders, can use this book to understand how other organizations are using the principles of Optimal Business Controlnbsp;(OBC) along with the underlying mathematics and technologies to determine what risks lie ahead and when sudden shocks may occur. Mathematicians and academia can use this book to understand how a dynamic complexitynbsp;problem can be accurately solved with the right level of representation and a good level of certainty on the reproducibility by using the combination of Causal Deconstructionnbsp;Theory and Perturbation Theory.nbsp; nbsp; This book is a starting point. While much has been achieved, there is still work to be done. The full value of these efforts won't be realized until the technologies and methodologies become engrained in the culture of the business.nbsp; When every business, information and technology manager can predict the future with increasing accuracy and confidence and then take strategic action to improve this predicted future, competitive advantage will be won.From the Back CoverDynamic complexity results from hidden, unshy;knownnbsp;factors?or more precisely,

interactions between factors?that can unexpectedly imshy;pact the perforshy;mance of systems. When the influences of dynamic complexitynbsp;are not measshy;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 effishy;ciencynbsp;unexpectedly begin to degrade?costs increase, while volumes and quality decline. Evidence of problems may come too late for effective resolution as technology advanceshy;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. 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To say Dr. Abu el Ata has a passion for mathematics, science and technology and more specifically modeling of dynamic complexity for corporate systems would be undershy;statement. Having published two books, 15 scientific papers, and over 300 techshy;nical and management reports, he has a proven ability to absorb, process and add insight on a wide variety of technological subjects. Dr. Abu el Atarsquo;s accomplishments include doctorate (Ph.D. and D.Sc. from Paris-Sorbonne) and bachelorrsquo;s degrees in Mathematics and a masterrsquo;s degree in Physishy;cal Sciences (Royal Observatory, Cambridge University).He is a valued former Doctorate Fellow of the European Space Organization; former Data Processing Director and Advisor for the French Atomic Energy Authority; and former CTO of First Data. Dr. Abu el Ata is also an advisory board member of the European Strategic Program for Research in IT; a Steering Committee member for European Programs: Pyramid, Europicon and Itaqua; an advisor to CLS, Deutsche Bank, First Data and BNPP and an advisory board member of French Employment Organization, French Ministry of Finance, French Postal Services, one of Francersquo;s largest banks (Credit Agricole); an External Professor for a number of universities in France, the UK, and the US; and Laureate of ComputerWorld Honors 2008.Dr. Maurice J. Perks, Board Technology Adviser Accretive Technologies Dr. Perks joined IBM in 1968 as a Systems Engineer. Over the span of his 44-year career with IBM, Dr. Perks specialized in the design of IT systems for large organizations. He is a world authority on the development of IT sysshy;tems in a range of industry sectors, and particularly the financial sector. Dr. Perks is noted for his methodological approach, which helps to understand and assess the complexshy;ity of systems, and his ability to apply that knowledge to design and modify complex sysshy;tems. He is currently working to promote undershy;standing of modern IT systems complexity and is bringing new ways of combining the triangle of business knowledge, IT knowledge and mathematics to this challenge. He is constantly seeking new ways of avoiding the increasing complexity that IT sysshy;tems are externalizing to business change. He is a great believer in the increased use of modeling and simulation to help tame the growing challenges that business and IT change pose. His ability to understand real-world business and IT system design was recognised by IBM in 2002, when Dr. Perks became the first IBM Fellow to be appointed from within the IBM Services Division. As a Fellow of the British Computer Society, a Fellow of the Institute of Engineering and Techshy;nology and a Royal Academy of Engineershy;ing Visiting Professor of IT Integration at the University of York, Dr. Perks offers a wealth of knowledge and real world experience as Accretiversquo;s Board of Director, Technology Advisor. The Aston University, UK has recognized his sustained work on complex system design.