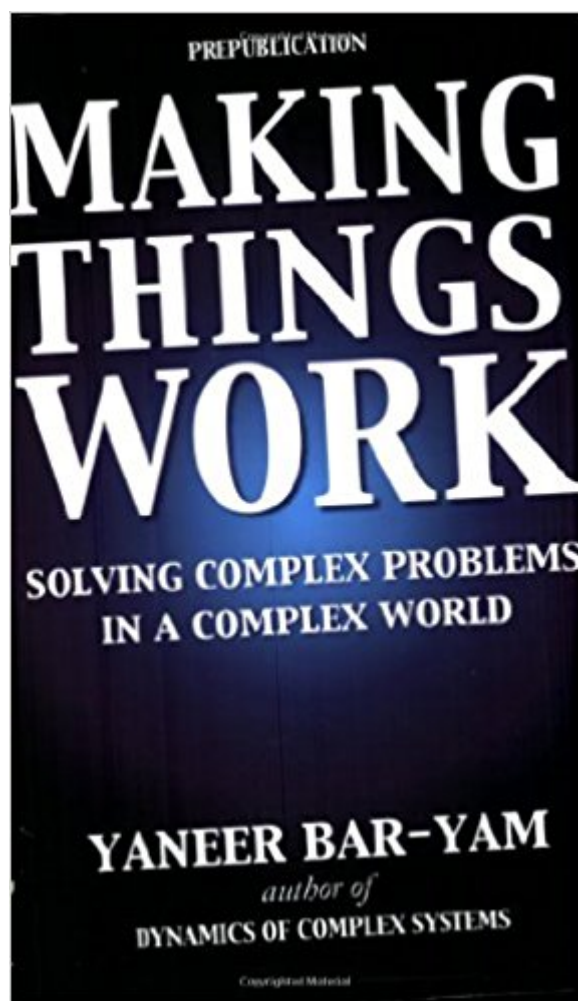The book was found

Making Things Work: Solving Complex Problems In A Complex World

Synopsis

Book by Bar-Yam, Yaneer

Book Information

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Customer Reviews

Book by Bar-Yam, Yaneer

Should be read by anyone in a leadership role.

It really helps in understanding complexity...

Dr Bar-Yam's book is a good examination of the problems of complexity and simplicity, and how they interact within a system environment. I found it an interesting read, in that it illuminates a series of general methods of thinking about systems and intra-system interactions. I get the impression this is all very basic systems engineering knowledge and the book has sparked my interest in the field, but as to this particular book I found several unfortunate errors in the book about peripheral topics that make me wonder about the work's examples as a whole.The two that really caught my eye were an otherwise throwaway bit about Macedonian phalanxes that displayed some ignorance, and...On p156, in the discussion on how easy it would be to drastically reduce medical errors with one fix, there's a horrible mathematical/probability error. It proposes a hypothetical ten-step process to medical procedures, with a 1% error at each INDEPENDENT step (this is important) leading to an overall ~10% chance of error [no error = $(1-0.01)^{10}$ = 90.4%] being applied to the patient. His easy

solution is to introduce redundancy at just one step, making that one step's likelihood of error 1% of 1%, or 0.01%; which is a correct construction. However, he then goes on to say that this one adjustment would reduce the total, final chance of error to 99.9%... and this is TOTALLY INCORRECT. It's EMBARRASSING. Such an adjustment would make the final chance of error 8.7% [no error = $(1-.01)^9*(1-.0001) = 91.3\%$], a relative reduction of 9% and an absolute reduction of 0.9%, not his calculated relative reduction of 99% and absolute reduction of 9.9%. He (apparently) incorrectly assumed that this one redundancy would reduce errors at all steps to 0.01%, rather than just one step, and this after stressing that these are independent events. He spends the next two pages talking about how this one single step would be so easy and current reduction methods are inadequate, when in actuality to get his proposed reduction of total error would take redundancies at all TEN steps, rather than at just one. This was the error that had me shaking my head and going back to re-read the passage about Alexander I'd passed over earlier.It's difficult to stress how fundamentally WRONG this error is. This isn't nitpicking; the nature of following two chapters of discussions about errors and complexity hinge on understanding what are, and are not independent factors. To miss this through goodness knows how many rounds of proof-reading made me seriously question the mathematical underpinnings of what's being discussed throughout the entire work.While overall the book was interesting, the errors above had me wondering how much of his discussion of systems application to the real world was actually relevant. The topic itself is an engaging one and I appreciate the numerous abstract discussions throughout, but I have serious doubts about the applications and proposed prescriptions for ailing systems that takes up the latter half of the book because I cannot be sure the author and his numerous colleagues and proof-readers understand what the heck they're actually talking about.

The reason I had given "Making Things Work: Solving complex problems in a complex word," a five star rating, was because I realized that I llacked a basic understanding of many of the concepts presented in his later research. This book not only allowed me to comprehend complex systems, but the trade-offs between scale and complexity, the interdependencies between subsystems, and how this approach can better solve intractable problems in today's highly complex society More than ever, solutions to today's complex problems depend on scientists, leaders, educators and the public who are ready and willing to collaborate and coordinate our transition to the "information age."

This book is bound to please anyone who wants to grapple with the complexity of today's world and

organizations, and is interested in the truly big picture and issues.Part I explains concepts central to complex systems, such as: parts, wholes and relationships; patterns; networks and collective memory; possibilities; and evolution. The second and major part of the book focuses on how we can apply complex systems ideas to help solve such major real-world challenges as: military warfare and conflict; health care (the system and errors); learning and the educational system; international development; enlightened evolutionary engineering; and global control, ethnic violence and terrorism. The first hurdle is to comprehend these problems using our knowledge of complex systems and then begin to address them using a complex systems framework.The book is intellectually refreshing and bold. Its content is expansive, enlightening, and mind-stimulating.

In "Making Things Work" Yaneer provides the reader with an excellent, non-technical discussion of some of the more important concepts in Complexity science. Like other successful popularizers of science such as Carl Sagan, Yaneer has a gift for explaining difficult subjects in a way that everyone can understand. He then shows how these concepts can (and should) be used to address real-world problems such as the health-care crisis and education. It should be required reading for policy-makers and business leaders.For a more technical treatment, I'd recommend Yaneer's earlier book or better yet, take a course at NECSI.

I read the author's previous book "Dynamics of Complex Systems," which is also an outstanding book that offers a more technical and in-depth look at complex systems in textbook form. The new book, "Making Things Work: Solving Complex Problems in a Complex World", presents complex systems concepts in a clear and understandable manner. Most of the book is devoted to detailed discussion of real world examples from the military, health care, education, international development, engineering, and global ethnic violence and terrorism. The author provides thought-provoking insights as well as innovative approaches to dealing with the complex problems in these areas. The world could be a different place if more people read this book.

Making Things Work: Solving Complex Problems in a Complex World Soap Making: 365 Days of Soap Making: 365 Soap Making Recipes for 365 Days (Soap Making, Soap Making Books, Soap Making for Beginners, Soap Making Guide, ... Making, Soap Making Supplies, Crafting) Soap Making: 365 Days of Soap Making (Soap Making, Soap Making Books, Soap Making for Beginners, Soap Making Guide, Soap Making Recipes, Soap Making Supplies): Soap Making Recipes for 365 Days CRITICAL THINKING: A Beginner's Guide To Critical Thinking, Better Decision Making, And

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