In the book we explain innovation in a way that allows it to be mastered as a result of systematic and replicable methods. We dismiss the myth that creativity is a mysterious capability available only to a few people at unpredictable moments. It understands that technology is the application of practical intelligence, so the way to improve how we innovate is to use methods that help a group of people to become a synchronized and creative team. It’s a book about how to manage the practical ingenuity that resides within an organization and how it can be used more efficiently and effectively to create value.

A path to systematic innovation is an essential business requirement for organizations trying to survive in modern economies. Organizations have to compete against low-cost economies and try to win consumers that demand continually higher levels of value for the money they spend. Under such hostile business conditions, those organizations that can innovate and adapt will be able to survive and prosper. Those organizations that cannot innovate systematically end up trying to sell yesterday’s newspapers and will be nudged out of the marketplace by Adam Smith’s invisible hand and Schumpeter’s creative destruction. Our book takes readers on a journey from basic to advanced concepts that will help them survive and prosper in today’s highly competitive environments.

This book is based on our experience helping major multibillion-dollar projects in the oil and gas industry, aerospace industry, health care industry, and small manufacturing firms trying to improve profitability. In the public sector we supported projects to give better returns on tax dollars. We work with leading-edge scientists in research and development programs. We explain how a distinction between solution and function as well as problem and opportunity open the door to a way of understanding how to innovate that can be achieved systematically. The key to this success is in the way functionality is made explicit and auditable.

Our real-world observations of processes are translated into abstract concepts that communicate relevance and yet do not tie us into any particular solution. We ask “What is the function performed?” in such a way that we can tease out and make explicit the
functionality needed for any system, product, or project. Once we have a clear understanding of what an elegant solution should achieve, we can look at what we have and know what needs to be improved and how such improvement would yield additional value. The power of this approach enables sessions such as brainstorming or synectics to be empowered because the scientists, engineers, and managers working for the same clients understand, in a combined and practical way, why a current offering is not delivering, or will not deliver, the results that the marketplace expects. It’s a book that will change the way that people inside organizations think about the act of innovation.

Purpose in Writing This Book

Many multinational corporations have for many years regarded Jerry Kaufman as an innovation catalyst. Dr. Woodhead was mentored by Mr. Kaufman in the 1990s and as a Senior Lecturer in Technology Management at Oxford Brookes University in Oxford, England, has helped to promote the way in which functions are seen as central to innovation. Supported by a history of successful commissions and comments from workshop participants and clients, we have been encouraged to compile many case studies in a book and explain how others can get the results we have achieved. This book is intended to share what we have developed and to start a quiet revolution that will see a proliferation of innovations, as the embedded practical ingenuity ‘trapped’ inside so many organizations is managed more effectively as an asset in its own right. It is not a book of hollow slogans and bland opinions. It is a book that explains the underlying theories that make the numerous techniques it discusses both accessible and learnable. In short, this is a book that will make a difference because it seeks to widen the ability to innovate with a combination of practical explanations of techniques and a rich exploration of the underlying principles.

Intended Audience

The primary audience for the book are those people whose business success is very dependent on innovation and who want to get better at it. This would include engineers, scientists, and managers who work inside organizations. The book will also appeal to management consultants for their use as a basis for offering services to companies.

The book has also been written in a way that will make it useful for postgraduate students. MBA students studying modes of innovating will find the book very relevant and the end-note references helpful in their studies. In summary, the book is relevant for any individual, team, or organization that needs to improve the ability to innovate.

The book is all about making thinking explicit and generating a list of feasible alternatives before committing to action. It’s about using intelligence to create options by understanding solutions that gain their value from the way they enable functions to be performed. But how do you set about achieving those ambitions? We address these outcomes and many more in seeking to help make you a team innovator.

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