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Sommario/riassunto

"As technology continues to reshape the world, this book stands as a testament to the importance of maintaining the highest standards of performability engineering in the pursuit of progress. I expect that this book will inspire the next generation of innovators and problem solvers to tackle the challenges and opportunities of today and tomorrow, ensuring a future where technology serves humanity with utmost dependability and safety." --Professor Way Kuo in the Foreword to Design and Manufacturing Practices for Performability Engineering There are several aspects involved when evaluating a system's performance, such as reliability, cost, quality, safety, maintainability, risks, and performance-related characteristics. Performability engineering provides a unified framework for integrating these aspects in a quantified manner, enabling informed decisions about a system. However, this field faces the daunting task of unifying diversified disciplines and theories that address issues such as quality, reliability, availability, maintainability, and safety (QRAMS), as well as engineering characteristics, statistical data analysis, multi-criteria decision-making, and applications of deep and machine learning. This book documents the latest ideas presented by world leaders in the QRAMS domain. Through diverse chapters, this volume represents the vitality of QRAMS in performability engineering. Design and Manufacturing Practices for Performability Engineering serves as a useful resource for practicing engineers and researchers pursuing this challenging and relevant area for sustainable development. Readers will find the book: Comprehensively covers a wide range of topics in the area of QRAMs; Provides in-depth explanations of best practices in various elements of Performability Engineering; Explores expert insights and real-world scenarios to demonstrate the many applications of QRAMs. Audience Researchers and educators of reliability engineering, electrical, computer science, electronics, and communication engineering with their associated allied areas. Industry analysts and design engineers of engineering systems will also find this book valuable.