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Nota di contenuto	Part 1 Big Tree with Thick Trunk and its Fruits -- 1 Research Aim and Framework -- 2 Theoretical Background: General Purpose Technology, Pattern of Innovation, and Spin-out -- 3 Data -- 4 Technological Characteristics of Laser and Laser Diode -- Part 2 R&D and Market Competition of Laser Diodes in the U.S. and Japan -- 5 Birth of the Laser Diode: It All Started in the U.S -- 6 Continuous Wave Operation at Room Temperature and Long Operating Life: Catch Up of the Japanese Firms -- 7 Competition over Communications: Long-Wavelength Laser Diode -- 8 Aiming for a New Market: From CD to DVD -- 9 From Red to Blue: Competition for Shorter Wavelengths -- 10 Strategic Behaviors of Japanese Firms on the Technological Trajectory -- 11 Changes in the Industrial Organization: Rise of Spin-Outs -- Part 3 Sub-Market

Development and Disappearing Technological Trajectory: Patterns of Innovation in the U.S. and Japan -- 12 Patterns of Spin-Outs and Innovation -- 13 Conclusion -- Appendices -- References -- Subject Index -- Name Index.

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Sommario/riassunto

This book focuses on exploring the relationship between spin-outs from incumbents and the patterns of innovation in general purpose technology. Do spin-outs really promote innovation? What happens if star scientists leave the incumbents and establish a startup to target untapped markets? Entrepreneurial spin-outs have been recognized as an engine of innovation. General purpose technology, such as the steam engine in the Industrial Revolution, has been considered an engine of growth. This book provides new perspectives on how entrepreneurial spin-outs shape the patterns of innovation in general purpose technology by integrating theoretical findings in industrial organizations and includes innovation studies and detailed evidence from a longitudinal case study. Concretely, by longitudinally exploring the technological development of laser diodes in the USA and Japan, this study examines how the existence or absence of an entrepreneurial strategic choice for spin-outs influences the patterns of subsequent technological development. The longitudinal analysis in this book shows that spin-outs could hinder the subsequent development of existing technology when that technology is still at a nascent level, because the cumulative effects of technological development could disappear if research and development personnel leave their parent firms in order to target different sub-markets. The findings of this book show that institutional settings designed to promote spin-outs do not necessarily promote innovation. The book offers novel theoretical insights into the relationship between institutions promoting spin-outs and the developments of general purpose technology.

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