

1. Record Nr.	UNINA9910299741803321
Titolo	Advances in product family and product platform design : methods & applications / / Timothy W. Simpson [and three others], editors
Pubbl/distr/stampa	New York : , : Springer, , 2014
ISBN	1-4614-7937-1
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (xviii, 819 pages) : illustrations (some color)
Collana	Gale eBooks
Disciplina	658.5752
Soggetti	Product design
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	<p>Preface -- 1. Recent Advancements in Product Family Design and Platform-based Product Development -- Part I: Platform Planning and Strategy -- 2. Crafting Platform Strategy based on Anticipated Benefits and Costs -- 3. Multidisciplinary Domains Association in Product Family Design -- 4. Modular Function Deployment – Using Module Drivers to Impart Strategies to a Product Architecture -- 5. Emphasizing Reuse of Generic Assets through Integrated Product and Production System Development Platforms -- 6. Quantifying the Relevance of Product Feature Classification in Product Family Design -- 7. Platform Valuation for Product Family Design -- Part II: Platform Architecting and Design- 8. A Pro-Active Scaling Platform Design Method Using Modularity for Product Variations -- 9. Architectural Decomposition – the role of granularity and decomposition viewpoint -- 10. Integrated Development of Modular Product Families – a Methods Toolkit -- 11. Solving the Joint Product Platform Selection and Product Family Design Problem -- 12. One-Step Continuous Product Platform Planning: Methods and Applications -- 13. Defining Modules for Platforms: An Overview of the Architecting Process -- 14. A QFD-based Optimization Method for Scalable Product Platform -- 15. Managing Design Processes of Product Families by Modularization and Simulation -- Part III: Product Family Development and Implementation -- 16. Global Product Family Design: Simultaneous Optimal Design of Module Commonalization and Supply Chain Configuration -- 17. Architecture-Centric Design Approach for Multi-Disciplinary Product</p>

Development -- 18. Product Family Commonality Selection using Optimization and Interactive Visualization -- 19. Developing and Assessing Commonality Metrics for Product Families -- 20. Managing Design Processes of Product Families by Modularization and Simulation -- 21. Design Principles for Reusable Software Product Platforms -- 22. Considering Human Variability When Implementing Product Platforms -- Part IV: Applications & Case Studies -- 23. Building, Supplying, and Designing Product Families -- 24. Modular Function Deployment Applied to a Cordless Handheld Vacuum -- 25. Optimal Commonality Decisions in Multiple Ship Classes -- 26. A Heuristic Approach to Architectural Design of Software-Intensive Product Platforms -- 27. Customer Needs Based Product Family Sizing Design: The Viper Case Study -- 28. Product Family Design and Recovery for Lifecycle -- 29. Application of the Generational Variety Index: A Retrospective Study of iPhone Evolution -- 30. Designing a Lawn and Landscape Blower Family Using Pro-Active Platform Design Approach -- Epilogue -- Index.

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## Sommario/riassunto

Advances in Product Family and Product Platform Design: Methods & Applications highlights recent advances that have been made to support product family and product platform design and successful applications in industry. This book provides not only motivation for product family and product platform design—the “why” and “when” of platforming—but also methods and tools to support the design and development of families of products based on shared platforms—the “what”, “how”, and “where” of platforming. It begins with an overview of recent product family design research to introduce readers to the breadth of the topic and progresses to more detailed topics and design theory to help designers, engineers, and project managers plan, architect, and implement platform-based product development strategies in their companies. This book also: Presents state-of-the-art methods and tools for product family and product platform design Adopts an integrated, systems view on product family and product platform design Details successful applications and case studies from a variety of industries Combines contributions from leading experts from industry as well as academia Is accessible to novice practitioners as well as experienced designers and engineers Advances in Product Family and Product Platform Design: Methods & Applications is an ideal book for designers, engineers, and project managers working in the field of product design as well as students, faculty, and researchers wanting to learn more about the latest work in the area.

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