

Growing Modular

Mass Customization of Complex Products, Services and Software

Bearbeitet von
Milan Kratochvíl, Charles Carson

1. Auflage 2005. Buch. xx, 172 S. Hardcover
ISBN 978 3 540 23959 8
Format (B x L): 15,5 x 23,5 cm
Gewicht: 1000 g

[Wirtschaft > Finanzsektor & Finanzdienstleistungen: Allgemeines](#)

schnell und portofrei erhältlich bei



Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

Contents

| | |
|--|------|
| Foreword | VII |
| Acknowledgements | IX |
| Preface | XI |
| How to Customize this Book | XIII |
| A Graphical Index of Chapters | XIX |
| Introduction, with Focus on the Customer | 1 |
| 1 Mass Customization, Components and Customer Intimacy | 9 |
| 1.1 The Lego Generation Grows Modular, with Grown-up Products and Configurators | 9 |
| 1.2 The Causes: Why Custom-tailored, and why Industrial <i>Mass</i> Customization | 10 |
| 1.3 From Mass Production of the Past to a Modern, Component-based Economy | 11 |
| 1.4 The Road to Customer Intimacy | 13 |
| 1.5 The Benefits of Focus on Both the Customer <i>and</i> the Process .. | 16 |
| 1.6 Knowledge Sharing Related to Components | 18 |
| 2 Selling Customized While Producing Industrialized | 21 |
| 2.1 Modularization Related to Product Upgrades and Life-cycle | 21 |
| 2.2 From “Assemble to Order” or “Engineer to Order” – to Configure-to-Order | 23 |
| 2.3 Configure-to-Order Trends | 26 |
| 2.4 Marketing to Demanding yet Cost-conscious Customers and Segments | 27 |
| 2.5 The Ubiquitous Nature of Configure-to-Order | 31 |
| 2.5.1 Compose-to-Configure: Configurable Classical Music .. | 31 |
| 2.5.2 The Ever Growing List of Customized, Complex, System Products and Services | 34 |

| | | |
|----------|--|-----------|
| 2.6 | Timing the Transition | 36 |
| 2.7 | Pine's Matrix Helps to Reduce Uncertainty on Market Turbulence | 36 |
| a) | Factors of Demand | 37 |
| b) | Structural Industry Factors | 37 |
| c) | Our Add-ons for High-tech Enterprises | 38 |
| 2.8 | Implementation: A Leap or Several Small Steps | 39 |
| 3 | Mass Customization of Services | 41 |
| 3.1 | Service Customization | 41 |
| 3.2 | The Relationship Between Services and Software | 41 |
| 3.3 | Examples of Using Service Automation to Treat Different Customers Differently | 43 |
| 3.4 | Customizing Public Administration | 45 |
| 4 | Mass Customization of Software Products | 51 |
| 4.1 | The Multiple Roles of the Software Industry | 52 |
| 4.2 | Software Components Viewed as Service-Providers | 52 |
| 4.3 | Customizing Software Support and Training | 54 |
| 4.4 | <i>Buy and Build</i> Rather than <i>Buy or Build</i> | 57 |
| 4.5 | Five Basic Concepts of Software Customization | 58 |
| 4.6 | Collaborative and Adaptive Customization – Intermixed in Complex Products | 64 |
| 4.7 | Parameterization in Software Products | 65 |
| 4.7.1 | An Example of Software Parameters | 66 |
| a) | The Traditional Static Solution | 67 |
| b) | The Parameterized, Dynamic Solution | 69 |
| 4.8 | Other Adaptive-Software Techniques | 71 |
| 5 | Streamlining the Product and the Processes | 73 |
| 5.1 | A <i>Targeted</i> Process Thinking | 73 |
| 5.2 | Component-based Products, Bids, After Sales – and Design-to-Configure | 75 |
| 5.3 | Long-lived Product Generations, Few Components, Many Possible Combinations | 76 |
| 5.4 | Co-modularization to Double and Re-double the Dividend | 77 |
| 5.5 | Product Families vs. Components | 82 |
| 5.6 | Modularity Types | 84 |
| 5.7 | Corporate Driving Forces of Modularity | 88 |
| 5.8 | IT and Knowledge Technology in Achieving the Conflicting Objectives | 89 |
| 5.9 | The Benefits of Dynamic Product Structures | 90 |

| | | |
|----------|---|------------|
| 5.10 | Managing Change in Customer Requirements | 92 |
| 5.11 | A Brief yet Amazing Calculation Exercise | 92 |
| 5.12 | Propagating Parameterization Throughout the Process | 94 |
| 6 | The Importance of Data, and the Ability to Capitalize on It | 97 |
| 6.1 | IT in Sales and Marketing | 97 |
| 6.2 | CRM in Brief: Ask for More | 98 |
| 6.3 | Automating to Sell | 100 |
| a) | Components | 100 |
| b) | Functional Configuration | 101 |
| 6.4 | Architecting the Configurability as a Product Tree or a Component Pool | 103 |
| 6.5 | Configurators | 106 |
| 6.6 | Evaluation of Configurators – the Extended Checklist | 110 |
| 6.6.1 | Six Key Internal Questions | 111 |
| 6.6.2 | Configurator Functional Capabilities | 115 |
| 6.6.3 | Configurator Maintenance Environment | 116 |
| 6.6.4 | Configurator Technical Capabilities | 117 |
| 6.6.5 | Configurator Evaluation Summary | 118 |
| 7 | Trends in the Order Process for Complex Products and Services | 119 |
| 7.1 | Extreme Engineer-to-Order Industries (a Few Facts from a British Survey) | 119 |
| 7.1.1 | 1030 Hours per Bid – Harvesting Just 38% | 119 |
| 7.1.2 | Thousands of Hours, yet Bidding Is the Tip of the Iceberg | 121 |
| 7.2 | Mainstream Configure-to-Order Industries (a Few Facts From a Car-dealer Study) | 122 |
| 7.3 | Globalization – <i>The Opportunity to Grow</i> | 123 |
| 7.4 | An Ego-neutral Aid in Workplace Conflicts | 124 |
| 7.5 | Customer Relationship Management and Learning More from Customer Data | 125 |
| 7.6 | Trends in Information Technology | 127 |
| 7.7 | The Web as a Technology Driver | 130 |
| 7.7.1 | Bringing Customers and Offerings Together (the “Web for Humans”) | 130 |
| 7.7.2 | Bringing Software Components Together (the “Web for Software Systems”) | 131 |

| | |
|--|-----|
| 8 Concluding Remarks | 135 |
| 9 Afterword: the Virtual Future ... | 137 |
| Supplements: | |
| S1. Industry Cases | 145 |
| S1.1 American Power Conversion (APC) | 145 |
| S1.2 Scania | 149 |
| S1.3 Dayton Progress Corporation | 154 |
| S1.4 Rackline Aims High | 160 |
| S1.5 Air Products & Chemicals Inc. | 163 |
| S 2. List of Reference Literature | 167 |
| S2.1 Books | 167 |
| S2.2 Articles | 169 |
| S2.3 Reports and Papers | 169 |
| About the Authors | 171 |