

6 Referências Bibliográficas

AGRAWAL, M.; KUMARESH, T.V.; MERCER, G.A. The false promise of mass customization, **The McKinsey Quarterly**, No. 3, p. 62-71, 2001.

ALVAREZ, R. R.; PROENÇA, A.; ANDRÉREZ, D. P. S. **Rio automotivo: elementos da realidade e perspectivas de desenvolvimento**. SEBRAE/RJ, Rio de Janeiro, 2002.

ANDERSON, S.W. Direct and indirect effects of product mix characteristics on capacity management decisions and operating performance, **International Journal of Flexible Manufacturing Systems**, Vol. 13, No. 3, p. 241-265, 2001.

ANFAVEA. Associação Nacional dos Fabricantes de Veículos Automotores, Anuário Estatístico, São Paulo, 2005.

A.T. KEARNEY. **The Complexity Challenge: A Survey on Complexity Management Across the Supply Chain**. Disponível em: <<http://www.atkearney.com/main.taf?p=5,3,1,83>>. Acesso em: 10 mar. 2005.

BARNEY, J.B. Types of competition and the theory of strategy: toward an integrative framework, **Academy of Management Review**, Vol. 11, No. 4, p. 791-800, 1986.

BARNEY, J.B. **Gaining and Sustaining Competitive Advantage**, Addison-Wesley Publishing Company, Reading, Massachusetts, 570 p. 1996.

BATCHELOR, J. **Engineering a vehicle for world-class logistics – From paradox to paradigm shifts on the Rover 75**. B. L. McCarthy, J. Wilson, eds. *Human Performance in Planning and Scheduling*, Taylor e Francis, Londres, Reino Unido, 2000.

BENJAAFAR, S.; KIM, J.; VISHWANADHAM, N. On the Effect of Product Variety in Production-Inventory Systems, **Annals of Operations Research**, Vol. 126, No. 1-4, p. 71-101, 2004.

BERRY, W.L.; COOPER, M.C. Manufacturing flexibility: methods for measuring the impact of product variety on performance in process industry, **Journal of Operations Management**, Vol. 17, No. 2, p. 163-178, 1999.

BERRY, W.L.; HILL, T.J.; KLOMPMAKER, J.E. Customer-driven Manufacturing, **International Journal of Operations & Production Management**, Vol. 15, No. 3, p. 4-15, 1995.

BIDAULT F.; BUTLER C. Buyer - Supplier Cooperation for Effective Innovation. **M2000 Executive Report**, No. 17, set. 1995.

BLECKER, T.; ABDELKAFI, N.; KALUZA, B.; KREUTLER, G. Mass Customization vs. Complexity: A Gordian Knot?, In: Galetic, L. (Ed.), **2ª Conferência Internacional “An Enterprise Odyssey: Building Competitive Advantage”**, Proceedings, Zagreb, Croácia, 17-19 Junho, p. 890-903, 2004a.

- BLECKER, T.; ABDELKAFI, N.; KALUZA, B.; KREUTLER, G. A framework to understanding the interdependencies between mass customization and complexity, **Proceedings of the 2nd International Conference on Business Economics**, Management and Marketing, Atenas, Grécia, 24-27 Junho, 2004b.
- BRAMHAM, J.; MACCARTHY, B.; GUINERY, J. Managing product variety in quotation processes”, **Journal of Manufacturing Technology Management**, Vol. 16, No. 4, p. 411-431, 2005.
- BREMNER, R. Big, bigger, biggest, **Automotive World**, No. 6, p. 36-43, 2000.
- BRIKÈ, F. The Cost of Complexity, **GAPConnection**. Disponível em: <<http://www.prnewswire.com/cnoc/ATKcost.html>>. Acesso em: 15 mar. 2005.
- CAMUFFO, A. **Globalization, Outsourcing and Modularity in the Auto Industry**, EURAM, Estocolmo, 2002.
- CAPRON, L. The long-term performance of horizontal acquisitions, **Strategic Management Journal**, Vol. 20, No. 11, p. 987-1018, 1999.
- CARVALHO, E. Globalização e estratégias competitivas na indústria automobilística: uma abordagem a partir das principais montadoras instaladas no Brasil, **Gestão & Produção**, Vol. 12, No. 1, p. 121-133, 2005.
- CHAKRAVARTY, A.K.; BALAKRISHNAN, N. Achieving product variety through optimal choice of module variations”, **IIE Transactions**, Vol. 33, No. 7, p. 587-598, 2001.
- CONSONI, F. **Relatório Setorial**, Setor Automóveis, FINEP – Financiadora de Estudos e Projetos, Rede DPP. Brasil, 2004.
- COPACIU, F.; WILKE, J.; HAMI-NOBARI, S. **D1.1.3 - Specification of the methodology for the evaluation of complexity**, Relatório interno do projeto ILIPT, nov., 2005.
- CORRÊA, H.L., **Linking Flexibility, Uncertainty and Variability in Manufacturing Systems**, Aylesbury, Aldershot, 1994.
- CORRÊA, H. L., The VW Resende (Brazil) plant modular consortium SCM model after 5 years of operation. **Proceedings of the Twelfth Annual Conference of the Production and Operations Management Society**, POMS-2001, mar. / abr., Orlando, Estados Unidos, 2001.
- DE TONI A.; NASSIMBENI G. A Method for the Evaluation of Suppliers’ Co-design Effort. **International Journal of Production Economics**, Vol. 72, No. 2, p. 169-180, 2001.
- DOWLATSHAH S. Implementing Early Supplier Involvement: A Conceptual Framework. **International Journal of Operations & Production Management**, Vol. 18, No. 2, 1998.
- DUMAREST, L.; JONK, G.; DIJK, B. – Learning a New Complexity Language, **A.T. Kearney Executive Agenda**, First Quarter, 2004.
- ER, M.; MACCARTHY, B. Investigating the impact of product variety in international supply chains: a simulation study, **Proceedings of the 8th Annual Cambridge Symposium on International Manufacturing**, 2003.

FERREIRA, P.C.P. **Avaliação da produção sob encomenda na indústria automobilística sob a perspectiva européia.** Dissertação de Mestrado – Departamento de Engenharia Industrial, Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, 2005, 147 p.

FHG-IAO-TEAM. **D1.1.1- Detailed overview of today's processes, weaknesses, tools and methods,** Relatório interno do projeto ILIPT, jun., 2005.

FINE, C.H.; ST. CLAIR, R.; LAFRANCE, J.C.; HILLEBRAND, D. **The U.S. automobile manufacturing industry,** U.S. Department of Commerce, Office of Technology Policy, dez., 1996.

FISHER, M.; ITTNER, C. The Impact of Product Variety on Automobile Assembly Operations: Empirical Evidence and Simulation Analysis, **Management Science**, Vol. 45, No. 6, p. 771-786, 1999.

FISHER, M.; HAMMOND, J.; OBERMEYER, W.; RAMAN, A. Configuring a supply chain to reduce the cost of demand uncertainty, **Production and Operations Management**, Vol. 6, No. 3, p. 211-225, 1997.

FREYSSENET, M.; LUNG, Y. Between Globalisation and Regionalisation: What is the Future of Motor Industry?, in Humphrey, J.; Lecler, Y. and Salerno, M. (Ed.), **Global Strategies and Local Realities: The Auto Industry in Emerging Markets**, Macmillan Press LTD, GB, 2000.

FUJIMOTO, H.; AHMED, A.; IIDA, Y.; HANAI, M. Assembly Process Design for Managing Manufacturing Complexities Because of Product Varieties, **International Journal of Flexible Manufacturing Systems**, Vol. 15, No. 4, p. 283-307, 2003.

GILMORE, J. H.; PINE II, J. The Four Faces of Mass Customization, **Harvard Business Review**, Vol. 75, No. 1, p. 91-102, 1997.

GRÖBLER, A.; GRÜBNER, A.; HASENPUSCH, J. Configurations of Internal and External Complexity in Manufacturing Companies, **Proceedings of the EurOMA Conference**, Cernobbio, Itália, 2003.

GPS SCHUH & CO. GMBH. **Complexity Management White Book.** Disponível em: <www.complexitymanager.com>. Acesso em: 07 ago. 2005.

HAYES, R.H.; WHEELWRIGHT, S.C. The dynamics of process-product life cycles, **Harvard Business Review**, Vol. 57, No. 2, p.127-136, 1979.

HILL, T. **Manufacturing Strategy**, Basingstoke, Macmillan, 1985.

HOLWEG, M.; GREENWOOD, A. Product variety, life cycles and rates of innovation: trends in the UK automotive industry, **World Automotive Manufacturing**, No. 36, abr., p. 12-16, 2001a.

HOLWEG, M.; GREENWOOD, A. **Product Variety, Life Cycles, and Rate of Innovation – Trends in the UK Automotive Industry.** Research Paper. Cardiff: Universidade de Cardiff, 2001b.

HOLWEG, M.; JONES, D.T. The Build-to-Order Challenge: What it really takes to let Customer Orders drive the Assembly Schedule. **Automotive World**, jan.- feb., p. 40-45, 2001.

HOLWEG, M.; PIL, F.K. **The Second Century: Reconnecting Customer and Value Chain through Build-to-Order**, The MIT Press, Cambridge, MA, 2004.

HONG, E.; HOLWEG, M. **Evaluating the Effectiveness and Efficiency of Global Sourcing Strategies: A Conceptual Note**, working paper, Centre for Competitiveness and Innovation, Universidade de Cambridge, Cambridge, 2005.

HOWARD, M. **Production and Process Technology: The Impact of Vehicle Design on Rapid Build to Order**. Research Paper, University of Bath, 2000.

J.D.POWERS LMC. **European Model Life Cycle Dynamics**, Oxford, 2000.

KAHN, B. Dynamic relationship with customers: High-variety strategies, **Journal of the Academy of Marketing Science**, Vol. 26, No. 1, p. 45-53, 1998.

KLAPPER, D. An econometric analysis of product variety impact on competitive market conduct in consumer goods markets”, **OR Spectrum**, Vol. 27, No. 4, p. 583-601, 2005.

KOTTEAKU, A.G.; LAIOS, L.G.; MOSCHURIS, S.J. The influence of product complexity on the purchasing structure, **Omega: The International Journal of Management Science**, Vol. 23, No. 1, p. 27-39, 1995.

LANCASTER, K. The economics of product variety: A survey, **Marketing Science**, Vol. 9, No. 3, p. 189-206, 1990.

LEE, H. L. & TANG, C. S., Modelling the costs and benefits of delayed product differentiation, **Management Science**, Vol. 43, No. 1, p. 40-53, 1997.

MACDUFFIE, J.P.; SETHURAMAN, K.; FISHER, M.L. Product Variety and Manufacturing Performance: Evidence from the International Automotive Assembly Plant Study, **Management Science**, Vol. 42, No. 3, p. 350-369, 1996.

MAPES, J.; NEW, C.; SZWEJCZEWSKI, M. Performance trade-offs in manufacturing plants, **International Journal of Operations & Production Management**, Vol. 17, No. 10, p. 1020-1033, 1997.

MAXCY, G.; SILBERSTON, A. **The Motor Industry**, George Allen & Unwin, Londres, Reino Unido, 1959.

MIDLER, C. **Innovation Based Competition in Auto Industry: New Challenges for Design Organization and Co-Innovation Processes**, IMVP-MMRC Conference, Universidade de Hosei, Tokyo, out., 2005.

MILGATE, M. Supply chain complexity and delivery performance: an international exploratory study, **Supply Chain Management: An International Journal**, Vol. 6, No. 3, p. 106-118, 2001.

MUFFATO M. Platform strategies in international new product development, **International Journal of Operations & Production Management**, Vol. 19, No. 5/6, p. 449-459, 1999.

NOVAK, S.; EPPINGER, S.D. Sourcing By Design: Product Complexity and the Supply Chain, **Management Science**, Vol. 47, No. 1, 2001.

OAKS, S.; MARKHAM, B.; MEHLTRETTTER, S. Managing Supply Chains in The 21st Century, **A.T. Kearney Executive Agenda**, Third Quarter, 2003.

PERONA, M.; MIRAGLIOTTA, G. Complexity management and supply chain performance assessment. A field study and a conceptual framework, **International Journal of Production Economics**, Vol. 90, No. 1, p. 103-115, 2004.

PIL, F.; HOLWEG, M. Linking Product Variety to Order-Fulfillment Strategies, **Interfaces**, Vol. 34, No. 5, p. 394-403, 2004.

PILLER, F.; KOCH, M.; MÖSLEIN, K.; SCHUBERT, P. Managing high variety: how to overcome the mass confusion phenomenon of customer co-design, **Proceedings of the EURAM 2003 Conference**, Milão, Itália, 3-5 Abril, 2003.

PINE II, J.B. **Mass Customization: The New Frontier in Business Competition**, Harvard Business School Press, Cambridge, MA, 1993.

PINE II, B. J. **Personalizando Produtos e Serviços – Customização Maciça – A Nova Fronteira da Competição dos Negócios**. São Paulo: Makron Books, 1994, 334p.

PORTER, M.E. **Competitive Advantage: Creating and Sustaining Superior Performance**, The Free Press, Nova Iorque, 1985.

PRICEWATERHOUSECOOPERS. **2000 Global Automotive Financial Review; an Overview of Industry Trends and Financial Reporting Practices**, PricewaterhouseCoopers, 2002.

RAMAN, N.; CHHAJED, D. Simultaneous determination of product attributes and prices, and production processes in product-line design, **Journal of Operations Management**, Vol. 12, No. 3-4, p. 187-204, 1995.

RHYS, D.G. **The Motor Industry: An Economic Survey**. Londres, Butterworth, 1972.

ROCHA, E.V.M. **Métodos e sistemas de gestão de produção de veículos sob a ótica das tendências de produção sob encomenda e customização em massa**. Dissertação de Mestrado – Departamento de Engenharia Industrial, Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, 2005, 84 p.

SALVADOR, F.; FORZA, C.; RUNGTUSANATHAM, M. Modularity, product variety, production volume, and component sourcing: theorizing beyond generic prescriptions, **Journal of Operations Management**, Vol. 20, No. 5, p. 549-575, 2002.

SCAVARDA, L.F.; BARBOSA, T.P.W.; HAMACHER, S. Comparação entre as tendências e estratégias da indústria automobilística no Brasil e na Europa, **Gestão & Produção**, Vol. 12, No. 3, p. 361-375, 2005a.

SCAVARDA, L.F.; HOLWEG, M.; HAMACHER, S.; BARBOSA, T.P.W. Managing product variety in emerging markets: a comparative study, **International Journal of Operational & Production Management**, Submetido em 5 de dezembro de 2005, status: sendo avaliado pelos *referees*, 2005b.

SCHLEICH, H.; LINDEMANN, E.; MIEMCZYK, J.; STONE, G.; HOLWEG, M.; KLINGEBIEL, K.; SEEWALD, J.; ESTERHÁZY, M.; KAUTH, J.; SEIDEL, T. **D7/8.1.3 Analysis of the state of the art of complexity management**, Relatório interno do projeto ILIPT, jun., 2005.

SCHUH, G.; GRUENENFELDER, M.P.; HOFER, A.P. **Managing Complexity in Your Product Range**, Schuh Complexity Management. Disponível em: <<http://www.complexitymanager.com/publications/Publications.php4?PageID=0>>. Acesso em: 02 set. 2005.

- SLACK, N.; LEWIS, M. **Operations Strategy**, Prentice Hall: Financial Times. Londres, 2002.
- STEINER, G.A.; MINER, J.B. (1977), **Management Policy and Strategy**, Macmillan Publishing Company, Nova Iorque, 1977.
- TANNER, H.R.; ALDERS, K.; ENTRUP, N.G.; SCHOPF, K.D. A holistic methodology for enterprise-wide complexity management, In: **IAMOT 2002 Proceedings**, 11th International Conference on Management of Technology, 10-14 Março, Miami Beach, Flórida, 2002.
- THONEMANN, U.W.; BRADLEY, J.R The effect of product variety on supply-chain performance, **European Journal of Operational Research**, Vol. 143, No. 3, p. 548-569, 2002.
- TUERKS, M. The Restructuring of the Global Automotive Industry: Opportunities and Challenges in the New Millennium, **GAPConnection**. Disponível em: <<http://www.prnewswire.com/cnoc/ATKrestruct.html>>. Acesso em: 23 mar. 2005.
- VAN DONK, D.P.; VAN DAM, P. Structuring complexity in scheduling: a study in a food processing industry, **International Journal of Operational & Production Management**, Vol. 16, No. 5, 1996.
- VAN HOEK, R.I. The rediscovery of postponement a literature review and directions for research, **Journal of Operations Management**, Vol. 19, No. 2, p. 161-184, 2001.
- WALLER, B. The Customer and the 3DayCar: focus groups report, **3DayCar Programme Report**, Referência M2 – 5/00, mai. 2000.
- WALLER, B. Managing demand / selling time: How to achieve optimised production schedules and profit maximization in a build to order automotive manufacturing system, **3DayCar Programme Report**, Referência M3 – 9/01, set. 2001.
- WINTER, D.; ZOIA, D.E. Rethinking Platform Engineering, **Ward's Auto World**, Vol. 37, No. 3, p.46-50, 2001.
- WOMACK, J.P.; JONES, D.T.; ROOS, D. **A maquina que mudou o mundo**. Rio de Janeiro: Campus, 1992. 347p.

7 **Apêndice**

As tabelas a seguir apresentam as informações sobre a variedade de atributos para cada versão do modelo Fiat Stilo oferecida ao mercado nacional. Com isso, pretende-se detalhar, através de um exemplo, os dados coletados que foram utilizados para se chegar ao número total de variedade por modelo de automóvel, conforme apresentado na Tabela 5.

	Versão	Estilos de carroceria	Motorização	Cor externa	Opcionais	Restrição
Número de opções	1	1	1	2		1
Combinações possíveis	1	1	1	2		2
Opcões oferecidas	Schumacher	4 portas	1.8 16V	- Vermelho Modena - Amarelo Indianápolis	- Airbag duplo	
Total de combinações	4					

	Versão	Estilos de carroceria	Motorização	Cor externa	Opcionais	Restrição
Número de opções	1	1	1	12	16	
Combinações possíveis	1	1	1	12	36.864	
Opções oferecidas	1.8 16V	4 portas	1.8 16V	<ul style="list-style-type: none"> - Vermelho Alpine - Preto Vulcano - Branco Banchisa - Verde Emerald - Preto Vesúvio - Cinza Orion - Prata Bari - Azul Jet - Dourado Mojave - Vermelho Barroco - Cinza Scandium - Azul Navona 	<ul style="list-style-type: none"> - ABS - Ar condicionado - Revestimento dos bancos em Couro - Alarme - Teto solar elétrico - Piloto automático - Rádio CD com mp3 - Rodas liga-leve 16" - Rodas liga-leve 17" - Sidebags dianteiros - Kit NGI - Kit Active II - Bancos dianteiros elétricos com memória - Airbag duplo - CD changer 5 discos - Som HI-FI com subwoofer 	<ul style="list-style-type: none"> - incompatível com Rodas 17" - incompatível com Rodas 16" - vinculado ao Airbag duplo - vinculo do Sidebags
Total de combinações	442.368					

	Versão	Estilos de carroceria	Motorização	Cor externa	Opcionais	Restrição
Número de opções	1	1	1	12	14	
Combinações possíveis	1	1	1	12	5.760	
Opções oferecidas	1.8 8V	4 portas	1.8 8V	<ul style="list-style-type: none"> - Vermelho Alpine - Preto Vulcano - Branco Banchisa - Verde Emerald - Preto Vesúvio - Cinza Orione - Prata Bari - Azul Jet - Dourado Mojave - Vermelho Barroco - Cinza Scandium - Azul Navona 	<ul style="list-style-type: none"> - Telecomando abertura / fechamento das portas - ABS - Vidros elétricos traseiros - Rodas liga-leve 15" - Alarme - Teto solar elétrico - Piloto automático - Rádio CD com mp3 - Rodas liga-leve 16" - Kit NGI - Kit Active II - Airbag duplo - Rádio CD - CD changer 5 discos 	<ul style="list-style-type: none"> - incompatível com Alarme - incompatível com Rodas 16" - incompatível com Telecomando - incompatível com Rádio CD - incompatível com Rodas 15" - incompatível com Rádio CD com mp3 - vinculado ao Rádio CD com mp3 OU Rádio CD
Total de combinações	69.120					

	Versão	Estilos de carroceria	Motorização	Cor externa	Opcionais	Restrição
Número de opções	1	1	1	12	12	
Combinações possíveis	1	1	1	12	3.072	
Opções oferecidas	Abarth	4 portas	2.4 20V	<ul style="list-style-type: none"> - Vermelho Alpine - Preto Vulcano - Branco Banchisa - Verde Emerald - Preto Vesúvio - Cinza Orion - Prata Bari - Azul Jet - Dourado Mojave - Vermelho Barroco - Cinza Scandium - Azul Navona 	<ul style="list-style-type: none"> - Ar condicionado - Revestimento dos bancos em couro - Alarme - Faróis de Xenon - Teto solar elétrico - Piloto automático - Rodas liga-leve 17" - Sidebags dianteiros - Bancos dianteiros elétricos com memória - Sidebags traseiros - CD changer 5 discos - Som HI-FI com subwoofer 	<ul style="list-style-type: none"> - vinculo do Sidebags traseiros - vinculado ao Sidebags dianteiros
Total de combinações	36.864					