Industrial Simulation Conference'2011

JUNE 6-8, 2011

CENTRO CULTURALE DON ORIONE
VENICE, ITALY

EDITED BY

SIMONETTA BALSAMO
AND
ANDREA MARIN

ORGANIZED BY

IN COOPERATION WITH

Università Ca'Foscari Venezia

A PUBLICATION OF

eurosis

Klumpp, M./Koppers, L. (2011): Simulating Value Chain and Co-operation Practice, in: Balsamo, S./Marin, A. (eds.): The 9th International Industrial Simulation Conference 2011, Conference Proceedings June 6-8, 2011 at Università Ca'Foscari Venezia, Venice, Italy, page 227-231.

Simulating Value Chain and Co-operation Practice

Matthias Klumpp
Laura Koppers
Institute for Logistics and Service
Management (ild)
FOM University of Applied Sciences
Leimkugelstraße 6
D-45141 Essen, Germany
E-Mail: matthias.klumpp@fom-ild.de
www.fom-ild.de

KEYWORDS
Value Chain Co-operation Simulation, Supply Chain Co-operation Simulation

ABSTRACT
Co-operation within value chain management is an important and thoroughly discussed topic in strategic management and logistics. But a detailed and quantified concept as a basis for business simulation and decision support is still largely missing. This is addressed on the basis of a business survey on vertical co-operation. The results are used to create a theoretical model on value chain management co-operation. This model is supposed to show the optimal co-operation intensity in order to maximize the total value chain profit.

1. INTRODUCTION

With different emphases most definitions of supply chain management, efficient consumer response and vertical marketing systems agree on the vertical co-operation aspect within the value chain (e.g. Blanchard 2007, Peter and Donelly 2004). The existing discussion about supply chain management, efficient consumer response and vertical marketing systems has often been led independently. In business practice as well the concepts are often carried out separately due to functional organization of firms. But value chain management (VCM) is regarded as an integrating concept (Al-Mudimigh et al. 2004, Blanchard 2007, Feller et al. 2004, Gereffi et al. 2005, Kaeseler 2004, Kannegiesser 2008, Kannegiesser et al. 2009, Porter and Millar 2008, Zentes et al. 2007). Therefore a holistic view of the value chain shall be established. The added value of VCM in comparison to the other concepts is often difficult to understand, especially for practitioners (Harbert 2009, McLarty 2003, Schulz 2000). Therefore one objective of this research is to discuss which areas VCM go beyond existing concepts focusing on the co-operation aspect. This will be achieved by reviewing field research results. Furthermore the results are included into a theoretical simulation of VCM to gain further insights.

2. VALUE CHAIN CO-OPERATION THEORY

Vertical co-operation is acknowledged to be a collaboration between companies of different value adding steps in a value chain (Bauer 2003). SCM, ECR and VMS have in common their critical factor of success: They all strongly rely on vertical co-operation in the value chain. Reasons and objectives for vertical co-operation are multiple (Jespersen and Skjøtt-Larsen, 2005, Kuhn and Hellingrath 2002, Porter 1985, Rushton et al. 2006, Wang et al. 2007). Karl and Orwart (2000) list for instance "information availability, information asymmetry, opportunistic behavior, yield network benefits or the general increase of efficiency of economic transactions" (p. 382) as reasons to engage in vertical co-operation. However, since vertical co-operation is discussed in different contexts, its objectives are often not described in a concluding way (Hagenhoff 2008). In order to understand co-operation as a factor of success better, it is necessary to distinguish between different vertical co-operations that are possible in the value chain and therefore in VCM. Differences can be stated in the following areas (Baader and Montanus 2008, Bahrami 2002, Bhutta et al. 2002, Busch and Dangelmaier 2004, Diller and Metz 2006, Färber 2007, Kuhn and Hellingrath 2002, Nøkkentved 2005, Patnayakuni et al. 2006, Porter and Millar 2008, Rushton et al. 2006, Semlinger 2006, Sydow 2006, Wang et al. 2007):

- Co-operation scope: The number of co-operation partners defines whether the co-operation is considered to be a dyadic co-operation, which consists only of two partners, or a small group co-operation with three to seven partners. More than seven partners define a big group co-operation. The co-operation access is distinguished into an open and a closed co-operation. The former has no restric-tions towards partners and timing whereas the latter does not allow new co-operation partners to enter after the co-operation kick-off. Depending on the geographical coverage one finds local, regional, national, international and global co-operation. This is considered to be the co-operation expansion. It seems important to point out the difference between international and global because they are often used as synonyms. Co-operation is considered to be international when the partners collaborate across national borders. A global co-operation goes beyond that and can be regarded to be a borderless co-operation operating worldwide.
- Co-operation content: Vertical co-operation varies with respect towards the co-operation content. The co-operation content can be perceived by the end customer as the total value chain output. The four 'P' of the marketing-mix are a good approach to structure co-operation content. For example, co-operation for a product development between a manufacturer and a retailer will be regarded as product co-operation. Shared pricing decisions within the value chain will be considered as price co-operation.
- Co-operation enabler: Enablers are often used referring to the IT-technology. Depending on the IT-integration, co-operations can act and react very different-ly. Technology enables the management of "variability, risks and exceptions more effectively" (Sabri and Shaikh 2010, p. 16). In the following, enabler will only consider

Klumpp, M./Koppers, L. (2011): Simulating Value Chain and Co-operation Practice, in: Balsamo, S./Marin, A. (eds.): The 9th International Industrial Simulation Conference 2011, Conference Proceedings June 6-8, 2011 at Università Ca'Foscari Venezia, Venice, Italy, page 227-231.

technology enablers knowing that some researchers have a broader understanding of enablers (Sabri and Shaikh 2010, pp. 14).

Therefore figure 1 depicts the co-operation differentiator in a simplified way to give an overview. It implies the same impact of all three differentiators on vertical co-operation. On the basis of the value chain model by Porter the following can be assumed for differentiators (Porter 1985). The co-operation enabler and scope can be considered as the secondary co-operation processes that support the primary ones, which are summed up in the co-operation content. The co-operation content is the output of a co-operation that can be perceived by the end customers. It is assumed that within the co-operation content there are four different intensity degrees in a hierarchical set-up that are linked to the value-added steps. Therefore the information flow (medium grey arrow) concerning the content has to be on all steps as well. However the decision-making (dark grey arrow) concerning the co-operation content varies. The product is the output of co-operation amongst all value chain partners concerning e.g. time to market and quality. As the product co-operation is often only concerned with one specific product the decision-making is considered to be easier than the other three co-operation contents. The place co-operation encompasses all co-operation content that is related to logistics and distribution. It can be assumed that not all value chain partners have to decide on the place content like where to sell the product. Even though this content is named place it is considered that the product co-operation aspects are included. A promotion co-operation includes even less value chain partners in the decision-making. But it is obvious that all value chain partners need to be informed of it e.g. in order to adjust production to the increased demand. The last value-adding steps have the best knowledge about the end customer and therefore are responsible for the decision-making concerning the price content.

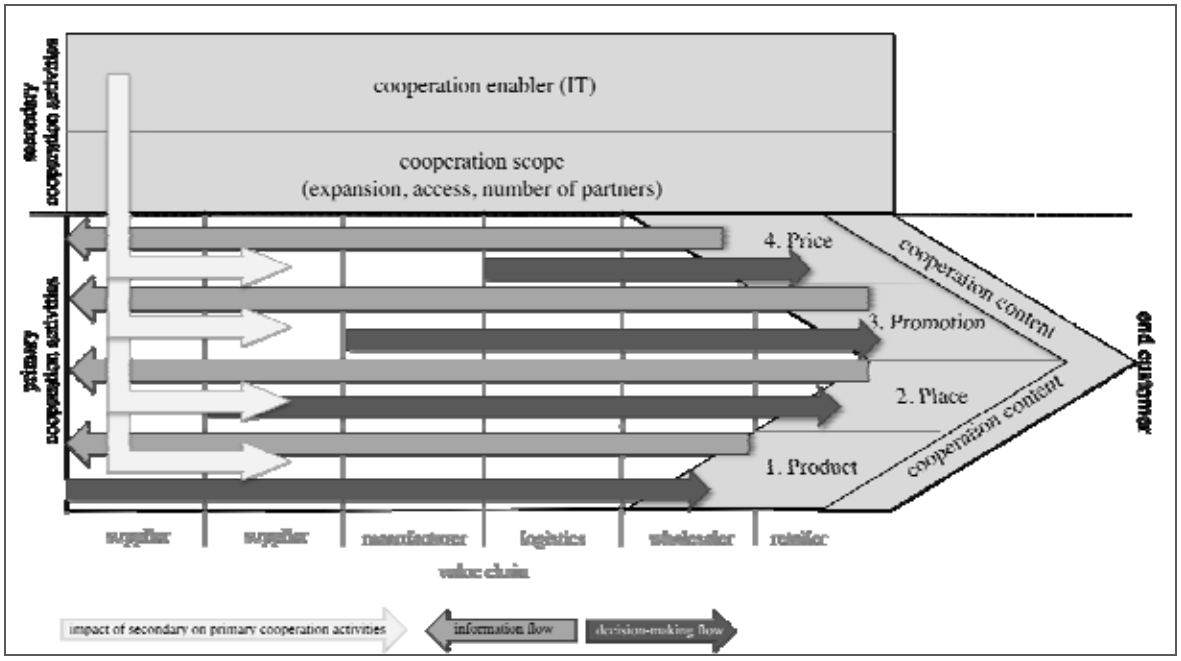

Figure 1: Co-operation in the Value Chain

3. BUSINESS PRACTICE SURVEY IN VCM

The research objective was a practical review regarding co-operation in value chains by carrying out an evaluation of six concept case on vertical co-operation. Three cases had been based on SCM, ECR and VMS literature. Furthermore three artificial concept cases had been given based on the co-operation differentiators differing in their intensity.

- Supply chain management: Seven companies in a value chain cooperate globally. The value chain can be designed via direct or indirect distribution. New companies that offer value for the unique chain can access the co-operation anytime. The co-operation objective is the optimisation of logistics through co-operative planning, forecasting and replenishment. Information is exchanged electronically.
- Low intensity concept (Low): A local co-operation involves two companies that work in an indirect channel of distribution. The co-operation is closed towards new companies. The partners exchange relevant information e.g. orders or demand changes. A special communication tool is not in place.
- Vertical marketing systems: Two companies have installed a national co-operation in an indirect channel of distribution. Their co-operation focus is a common product development and introduction, recommended retail prices, shared terms and conditions of delivery and payment and common advertisement and promotion. The co-operation is supported by IT-solutions like a common enterprise resource planning system.
- Medium intensity concept (Med.): Four companies of one value chain have founded an international co-operation. The partners are open towards integrating new partners into their co-operation. Co-operation focus is the common product development and introduction, the planning and execution of common promotion and the conjoint planning of replenishment. The information sharing of the partners takes place by using simple IT-tools like excel spreadsheets to arrange and update delivery dates.

Klumpp, M./Koppers, L. (2011): Simulating Value Chain and Co-operation Practice, in: Balsamo, S./Marin, A. (eds.): The 9th International Industrial Simulation Conference 2011, Conference Proceedings June 6-8, 2011 at Università Ca'Foscari Venezia, Venice, Italy, page 227-231.

- Efficient consumer response: Six companies of one value chain cooperate on an international level. New co-operation partners, who have a link to the value chain, can access this co-operation anytime. The co-operation contains a common product development including designing individual products for one partner. Sales promotions are commonly planned and executed. The partners agree conjointly on the assortment. Common sourcing aims at advantages like economies of scope. The use of modern logistics practices like cross docking is carried out to optimise replenishment. A common controlling makes sure the planning and decision are efficient. The partners use one common enterprise resource planning system.
- Maximum intensity concept (Max.): Co-operation involves ten companies in a value chain. New co-operation partners are admitted anytime. The partners cooperate with regard to common product development, including designing individual products for one partner that can be sold as private labels. Pricing decisions are taken together. Sales promotions are commonly planned and executed. The partners agree conjointly on the assortment. The use of modern logistics practices like cross docking is carried out to optimise re-plenishment. A common controlling makes sure the plan-ning and decision are efficient. The partners use one common enterprise resource planning system.

It is necessary to have evaluation criteria for the six concept cases. Depending on the vertical co-operation, various criteria can be found that pay respect to the uniqueness of each concept. The following eight criteria have been chosen:

- Implementation expenses: Vertical co-operation is highly dependent on its implementation expenses. High expenses for minor co-operation advantages are not efficient. But co-operation cannot succeed if the co-operation partners flinch from executing a proper implementation with the necessary expenses (Cline 2005, Eriksson and Pesämaa 2006).
- Cost cutting potential: Vertical co-operation can be used to cut costs in many ways. It can be achieved e.g. through economies of scale or the access to know-how that can increase efficiency (Daher et al. 2006; Kraege 1997).
- Risk reduction: With vertical co-operation, risks can be reduced for the co-operation partners, e.g. through sharing the risk of an investment or diversification in the competences (Kraege 1997).
- Sales growth potential: Depending on the vertical co-operation, it can imply sales growth because of access to new markets or rounding off the product range through economies of scope (Kraege 1997).
- Innovation potential: Within vertical co-operation e.g. technology transfer or common research can lead to an increased innovation potential (Hagenhoff 2008).
- Interdependence risk: In order to achieve the vertical co-operation objectives, e.g. technology sharing, the vertical co-operation is often long-term. To cut cooperative ties is not easy and can be risky with subject to the interdependence. It is important that the advantages of the vertical co-operation justify the abandonment of degrees of interdependence and independence.
- Flexibility: With increasing uncertainty due to the dynamics and the complexity of a firm's environment the need for flexibility grows. Cooperating can be a way to gain flexibility (Eriksson and Pesämaa 2006; Kraege 1997).
- Service quality: Services that improve customer satisfaction and loyalty are important differentiators and can be used to gain competitive advantages. Vertical co-operation can help to increase the offer of services and their quality.

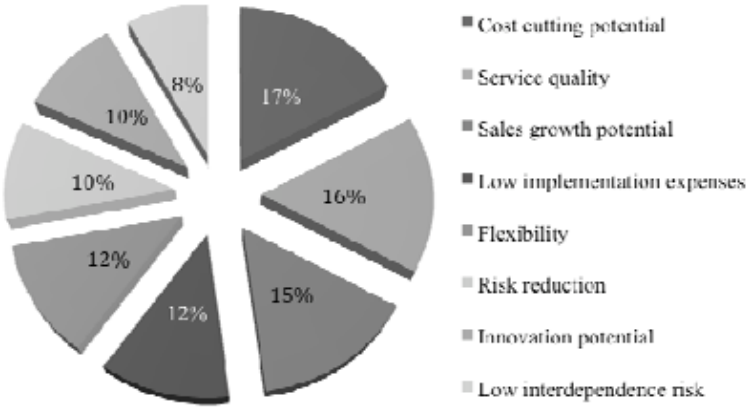

Figure 2: Business Practice Survey Results

Altogether 34 professional experts had been chosen to take part in the business practice survey. from March 2010. To avoid distorted industry results, the experts have been chosen from 16 different industries. When looking at the results, cost cutting potential (17%) seems to be the most important criterion in vertical co-operation followed by service quality (16%) and sales growth potential (15%). Low implementation expenses (12%) and flexibility (12%) as well as risk reduction (10%) and innovation potential (10%) are each regarded with the same importance. Low interdependence risk (8%) is regarded to be of lowest importance in vertical co-operation. The final score has been received through multiplication of the importance factors and the numerical value on the scale. As this result has no numerical value, the results have been put into a ranking. The medium intensity concept was the winning concept, closely followed by the maximum intensity concept. Looking at a criterion ranking the SCM concept was ranked best on the most important criteria, cost cutting potential and service quality, followed by the maximum intensity concept.

Klumpp, M./Koppers, L. (2011): Simulating Value Chain and Co-operation Practice, in: Balsamo, S./Marin, A. (eds.): The 9th International Industrial Simulation Conference 2011, Conference Proceedings June 6-8, 2011 at Università Ca'Foscari Venezia, Venice, Italy, page 227-231.

4. VALUE CHAIN CO-OPERATION SIMULATION

Literature does today not provide a model for value chain management regarding the co-operation aspect – though there is a multitude of modeling approaches regarding pricing and the connection to supply chain management in general (e.g. Pfeifer and Carraway 2000, Kuhn and Laakmann 2001, Transchel and Minner 2008, Gimpl-Heersink et al. 2008, Hansen et al. 2008, Kimms and Drechsel 2009). This quantitative model is supposed to give the best co-operation intensity that maximizes the total value chain profit, expressed as EBIT value for all companies in the chain. The model starts with the following initial situation: Co-operation in the value chain is already in place. Concerning the scope we consider the vertical coopera-tion to be a small group co-operation with international partners that is closed for others. The content of the co-operation can be related to the fields of product, place and promotion. So far only simple IT-tools are used as enablers for the co-operation. The value chain produces and sells 100,000 items of a given product with an end customer price of 13 €. Total procurement, operations, distribution and overhead costs for three companies in the value chain amount to 1,200,000 € with the basic assumption of an even distribution of these variable costs depending on the number of items sold. Therefore the EBIT in the starting situation would be 100,000 € without co-operation. In the aforementioned field research eight criteria have been used. The following three belong to the criteria that have been given the highest importance by the experts. Cost cutting potential, implementation cost and sales (earnings) growth potential will be used in the following as well to evaluate co-operation options with different intensities. The first criterion is assumed to be variable costs in nature, i.e. providing for a share of cost per item to be possibly reduced. The second criterion addresses fixed costs in nature, assuming a fixed cost investment e.g. in software or other company assets. Because service quality can overlap with sales growth potential, e.g. higher service quality might lead to higher sales volumes, it will not be explicitly used in the model but implicitly through sales growth potential.

The following *restrictions* apply to the newly designed model (in the GAMS software, 23.5.2 WIN 19281.19383 VS8 x86/MS Windows version) for the question of the optimal intensity of value chain co-operation:

- As solving algorithm a basic linear programming function was used. This inclines, that only one defined decision parameter can be introduced in order to reach an output solution in the objective function. Therefore only one of the described co-operation differentiators can be modeled at once. This model includes the differentiator co-operation enabler.
- As starting point a basic cost and earnings model (EBIT) for three value chain stages with four process areas (procurement, operations, distribution and overhead) each was used.
- The model assumes a single and static time slot without further specification, as usual in business practice it could be for example one year (business/calendar year). This implies that investment and return schemes can-not be outlined in detail, in this case we assume that invest payment (fixed cost co-operation costs) occurs in the same time period as payback.

The following *parameters* and *variables* have been used in the model in order to implement the relevant quantities:

- Parameter (scalar) p was used for the end product price of this specific value chain; p was assumed to be 13 €.
- Parameter (scalar) d was used for number of end product sold by this specific value chain; d was assumed to be 100,000 items in the calculated time period.
- Variable m was used to indicate the objective EBIT in €.
- Variable e was used in order to model the decision option of co-operation or non-co-operation regarding enablers (1 for co-operation, 0 for non-co-operation).
- Variable f was used to represent the total fixed costs in Euro incorporated by the co-operation proposal; this value is a fixed input parameter with the given value of 100,000 €.
- Variable o was used to indicate the co-operation multiplicator regarding the variable total value chain costs; in this example case it was assumed that this variable could range from 0.95 (meaning a 5 percent cost decrease induced by the co-operation proposal) to 1.00 (meaning 0 variable cost decrease due to non-co-operation).
- Variable q was used to indicate the co-operation multiplicator regarding the total value chain earnings; in this example case it was assumed that this variable could range from 1.00 (meaning no earnings increase due to non-co-operation) to 1.05 (meaning a 5 percent earnings increase due to co-operation).
- Variable v was used to represent the total variable costs of all companies in the value chain in €.

The following *functions* have been used in order to allow for the intended co-operation decision modeling:

- First the fixed co-operation cost variable [f] is calculated assuming a linear proportional equation multiplying the decision variable [e] with the as-sumed fixed investment costs of 100,000:

  (1) $f = e * 100000$

- Second the cost reduction by the co-operation investment is calculated in a first step by the cost saving percentage indicated by the variable [o] simi-larly as linear function:

  (2) $o = 0.95 + \left(0.05 * \left(1 - \frac{e}{1}\right)\right)$

- The second step uses this variable [o] in order to calculate the total variable costs [v] in the value chain in all three companies (index i) and all four cost areas (index j) as a summation:

  (3) $v = \left(\sum_{i=1}^{I}\sum_{j=1}^{J} c_{j,i} * d\right) * o$

- Third the potential earnings increase in the value chain through the coop-eration proposal regarding enablers has to be determined, represented by the variable [q]:

  (4) $q = 1.05 - \left(0.05 * \left(1 - \frac{e}{1}\right)\right)$

- Fourth and last the value chain total EBIT represented by the variable [m] is calculated by:

  (5) $m = p * d * q - v - f$

Klumpp, M./Koppers, L. (2011): Simulating Value Chain and Co-operation Practice, in: Balsamo, S./Marin, A. (eds.): The 9th International Industrial Simulation Conference 2011, Conference Proceedings June 6-8, 2011 at Università Ca'Foscari Venezia, Venice, Italy, page 227-231.

The model provides a correct solution choosing the defined higher co-operation level regarding enablers (decision variable e = 1). Obviously this depends on the defined input parameters as e.g. fixed investment costs. The increased EBIT for the whole value chain amounts to 125,000 Euro. Through expert input this research therefore established a VCM model that reflects not only the theoretical state-of-the-art but business practice as well. Though the model has to be extended in crucial parts (non-linear solving algorithm etc., see Tempelmeier et al. 2008, Wenzel et al. 2008, Färber 2007) it provides a basic structure to be used in research.

REFERENCES

Al-Mudimigh, A. S., Zairi, M., Ahmed, A. M. M. (2004). Extending the concept of supply chain: The effective management of value chains. International Journal of Production Economics, 87(3), 309-321.

Baader, A., Montanus, S. (2008). Transparency in Global Supply Chain Networks. In R. Ijioui, H. Emmerich, M. Ceyp (Eds), Strategies and Tactics in Supply Chain Event Management (pp. 3-13). Berlin, Heidelberg: Springer.

Bahrami, K. (2002). Improving Supply Chain Productivity through Horizontal Co-operation – The Case of Consumer Goods Manufacturers. In S. Seuring, M. Goldbach (Eds), Cost Management in Supply Chains (pp. 213-233). Heidelberg, New York: Physica.

Bauer, S. (2003). Perspektiven in der Organisationsgestaltung. In H.-J. Bullinger, H. J. Warnecke, E. Westkäpfer (Eds), Neue Organisationsformen in Unternehmen – Ein Handbuch für das moderne Management (pp. 93-128). 2. Ed. Berlin, Heidelberg, New York: Springer.

Bhutta, K. S., Huq, F., Maubourguet, F. (2002). Efficient Consumer Response – Increasing Efficiency through Co-operation. In S. Seuring, M. Goldbach (Eds), Cost Management in Supply Chain (pp. 218-233). Heidelberg, New York: Physica.

Blanchard, D. (2007). Supply Chain Management - Best Practices. Hoboken: Jon Wiley & Sons.

Busch, A., Dangelmaier W. (2004). Integriertes Supply Chain Management – Ein koordinationsorientierter Überblick. In A. Busch, W. Dangelmaier (Eds). Integriertes Supply Chain Management – Theorie und Praxis effektiver unternehmensübergreifender Geschäftsprozesse (pp. 3-21). 2 Ed. Wiesbaden: Gabler.

Cline, K. D. (2005). Defining the Implementation Problem – Organizational Management versus Co-operation. Journal of Public Administration Research & Theory, 10(3), 551-571.

Daher, C. E., de la Sita Silva, E. P., Fonseca, A. P. (2006). Reverse Logistics - Opportunity to Reduce Costs by Integrated Value Chain Management. Brazilian Business Review, 3(1), 57-72.

Diller, H., Metz, R. (2006). Couponing bei Procter & Gamble. In L. Müller-Hagedorn, R. Mesch (Eds), Efficient Consumer Repsonse in der Praxis – Fallstudien zu Projekten, Konzepten und Strategien (pp. 215-229). Frankfurt am Main: Deutscher Fachverlag.

Eriksson, P. E., Pesämaa, O. (2006). Modelling procurement effects on co-operation. Construction Management and Economics, 25, 893–901.

Färber, B. H. (2007). Simulationsansätze für Supply Chains. Saarbrücken: VDM.

Feller, A., Shunk, D., Callarman, T. (2006). Value Chains Versus Supply Chain. http://www.ceibs.edu/knowledge/papers/images/20060317/2847.pdf. Accessed: 27 October 2010.

Gereffi, G., Humphrey, J., Sturgeon, T. (2005). The governance of global value chains. Review of International Political Economy, 12(1), 78-104.

Gimpl-Heersink, L., Rudloff, C., Fleischmann, M., Taudes, A. (2008): Integrating Pricing and Inventory Control: Is it Worth the Effort? Business Research, 1(1), 106-124.

Hansen, A., Joseph, K., Krafft, M. (2008): Price Delegation in Sales Organizations: An Empirical Investigation. Business Research, 1(1), 94-105.

Hagenhoff, S. (2008). Innovationsmanagement für Kooperationen – Eine instrumentenorientierte Betrachtung. Habilitation. University of Göttingen.

Harbert, T. (2009). Why the Leaders Love Value Chain Management. Supply Chain Management Review, 13(8), 12-17.

Jespersen, B. D., Skjøtt-Larsen, T. (2005). Supply Chain Management – In Theory and Practice. Copenhagen: Copenhagen Business School Press.

Kaeseler, J. (2004). Value Chain Management in der Gebrauchsgüterindustrie. In H. Beckmann (Ed.), Supply Chain Management – Strategien und Entwicklungstendenzen in Spitzenunternehmen (pp. 227-260). Berlin, Heidelberg, New York: Springer.

Kannegiesser, M. (2008). Value Chain Management in the Chemical Industry – Global Value Chain Planning of Commodities. Heidelberg: Physica.

Kannegiesser, M., Günther, H. O., Beek, P. et al. (2009). Value chain management for commodities: A case study from the chemical industry. OR Spectrum, 31(1), 63-93.

Karl, H., Orwart, C. (2000). Environmental Marketing and Public Policy. In H. Folmer, H. L. Gabel (Eds), Principals of Environmental and Resource Economics – A Guide for students and decision makers (pp. 363-396). 2. Ed. Cheltenham, Northampton: Edward Elgar.

Kimms, A., Drechsel, J. (2009): Cost Sharing under Uncertainty: An Algorithmic Approach to Cooperative Interval-Valued Games. Business Research, 2(2), 206-214.

Kraege, R. (1997). Controlling strategischer Unternehmenskooperationen – Aufgaben, Instrumente und Gestaltungsempfehlungen. Mering: Hampp.

Kuhn, A., Hellingrath, H. (2002). Supply Chain Management – Optimierte Zusammenarbeit in der Wertschöpfungskette. Berlin, Heidelberg, New York: Springer.

Kuhn, A., Laakmann, F. (2001): Beherrschung großer Logistiknetze – Fragestellungen und Lösungskonzepte. Industrie Management, 17(5), 37-40.

McLarty, R. (2003). The Attitudes of British Managers in Small and Medium-Sized Enterprises to the Implementation of the Value Chain Concept. International Journal of Management, 20(4), 430-442.

Nøkkentved, C. (2005). Collaboration in e-Supply Networks. In C. An, H. Fromm (Eds), Sup-ply Chain Management on Demand – Strategies, Technologies, Applications (pp. 233-286). Berlin, Heidelberg, New York: Springer.

Patnayakuni, R., Rai, A., Seth, N. (2006). Relational Antecedents of Information Flow Integra-tion for Supply Chain Coordination. Journal of Management Information System, 23(1), 13-49.

Peter, J. P., Donelly, J. H. Jr. (2004). Marketing Management – Knowledge and Skills. 7 Ed. McGraw-Hill: New York.

Pfeifer, P. E., Carraway, R. L. (2000): Modeling Customer Relationships in Markov Chains. Journal of Interactive Marketing, 14(2), 43-55.

Porter, M. (1985). Competitive Advantage – Creating and Sustaining Superior Performance. Washington, Florence: Free Press.

Porter, M. E., Millar, V. E. (2008). How Information Gives You Competitive Advantage. In M. E. Porter (Ed.), On Competition (pp.73-96). Boston: Harvard Business School Publishing.

Rushton, A., Croucher P., Baker, P. (2006). Handbook on Logistics and Distribution Management. 3. Ed. London, Philadelphia: Kogan Page.

Sabri, E. H., Shaikh, S. N. (2010). Lean and agile value chain management – A guide to the next level of improvement. Fort Lauderdale: J. Ross Publishing.

Schulz, D. (2000). 'Value Chain' Confusion. Traffic World, 263(8), 18-19.

Semlinger, K. (2006). Effizienz und Autonomie in Zulieferungsnetzwerken – Zum strategischen Gehalt von Kooperationen. In J. Sydow (Ed.), Management von Netzwerkorganisationen – Beiträge aus der Managementforschung (pp. 29-74), 4. Ed. Wiesbaden: Gabler.

Sydow, J. (2006). Editorial – Über Netzwerke, Allianzsysteme, Verbünde, Kooperationen und Konstellationen. In J. Sydow (Ed.), Management von Netzwerkorganisationen – Beiträge aus der Managementforschung (pp. 1-7), 4. Ed. Wiesbaden: Gabler.

Tempelmeier, H. et al. (2008): Modellierung logistischer Systeme. In Arnold, D. et al.: Hand-buch Logistik (pp. 35-94), Berlin, Heidelberg: Springer.

Transchel, S., Minner, S. (2008): Coordinated Lot-sizing and Dynamic Prizing under a Supplier All-units Quantity Discount. Business Research, 1(1), 125-141.

Wang, W. Y. C., Heng, M. S. H., Chau, P. Y. K. (2007). Implementing Supply Chain Manage-ment in the New Era – A Replenishment Framework for the Supply Chain Operations Reference Model. In W. Y. C. Wang, M. S. H. Heng, P. Y. K. Chau (Eds), Supply Chain Management – Issues in the New Era of Collaboration and Competition (pp. 1-22). Hershey: Idea.

Wenzel, S., Weiß, M. Collisi-Böhmer, S., Pitsch, H., Rose, O. (2008): Qualitätskriterien für die Simulation in Produktion und Logistik. Berlin, Heidelberg: Springer.

Zentes, J., Morschett, D., Schramm-Klein, D. (2007). Strategic Retail Management – Text and International Cases. Wiesbaden: Gabler.