

Study Guide

Supply Chain Management MST – 24806 (2011-2012 Period 4)

Code:	24C-30PO-6SW-Z 6.00 Credits
Examiners:	Dr. J.H. Trienekens, Prof. Dr. ir. J.G.A.J. van der Vorst, Dr. P.T.M. Ingenbleek, Dr.ir. M. Meuwissen, Dr. ir. GJ. Hofstede
Contact person:	Dr. J.H. Trienekens
Language of instruction:	English
Secretary:	Management Studies
Period:	4
Kick-off lecture:	Monday 13 February, 10.30 hrs
Room:	218
Examination date:	Thursday 8 March, 14.00-17.00 hrs
Assumed knowledge on:	MST 24306 (Introduction to Business Management and Marketing)
Continuation courses:	ORL 31306 (Advanced Supply Chain Management)

Aim

Aim is to give students knowledge of and insight in business incentives for supply chain management and the effects of coordination of processes in supply chains. The course will provide a theoretical basis and introduction to multi-disciplinary analysis of supply chains, supported by practical knowledge based on recent case-studies. It will enable the students to understand and analyse supply chain goods and information flows and to understand supply chain improvement options.

Content

The focus will be on management and coordination of operational processes in supply chains, from supply of raw materials until delivery of end-products to consumers. Attention is paid to: 1. Supply Chain Strategy, including supply chain strategy design, customer fulfillment strategies, product development and order fulfillment, 2. Supply Chain Design, including globalisation aspects, cost management and outsourcing, 3. Supply Chain Collaboration, including relationships management, information sharing and performance measurement.

Activities

The programme consists of lectures in which the major Supply Chain Management issues are addressed, working in groups on case-studies and discussion meetings. In performing case studies (in small groups of 3-4 persons) students must achieve the capabilities to analyse supply chain issues and understand options for improvement.

- 14 lectures and 3 discussion meetings
- 3 case study assignments (10-20 hrs/case)
- literature
- exam

Learning outcomes

At the end of the course, the student is expected to be able:

- to explain main concepts in the field of supply chain management.
- to analyse management and coordination in supply chains.
- to critically assess literature on supply chain management and make applications to real-life chains.
- to distinguish main developments and issues in national as well as international food supply chains.

- to appraise improvement options in food supply chains regarding chain strategy, chain design and chain collaboration

Literature

Fawcett S.E., L.M.Ellram, J.A.Ogden, 2007. Supply chain management, from vision to implementation. Pearson, Prentice Hall

Assesment strategy

Written exam and cases-studies:

- Closed book exam with open questions
- Case studies according to course schedule

Learning outcome/ where assessed	Case assignments	Exam
1. be able to explain main concepts in the field of supply chain management		X
2. be able to analyse management and coordination in supply chains	X	X
3. be able to critically assess literature on supply chain management and make applications to real-life chains	X	X
4. be able to distinguish main developments and issues in national as well as international food supply chains		X
5. be able to appraise improvement options in food supply chains regarding chain strategy, chain design and chain collaboration		X

- Grades for cases account together for 20% in final mark.

Planning:

Schedule SCM period 4 2011-2012 (All lectures in room 218)

	Week 1 (13 feb.)	Week 2 (20 feb.)	Week 3 (27 feb.)
Monday 10.30-12.15	Introduction (JT) (Ch 1) <i><u>Introduction Case 1(*)</u></i>	Evaluation case 1 JT	Relationships management (PI) (CH 11) <i><u>Introduction Case 3</u></i>
Tuesday 10.30-12.15 And 13.30-15.15	Customer fulfillment strategies (PI) (Ch 2) <u>and</u> Process thinking in SCM (JT) (Ch3) <i><u>Case 1 cont</u></i>	Order fulfillment 1 (JV) (Ch 5) <u>and</u> Order fulfillment 2 (JV) (Ch 5) <i><u>Case 2 cont.</u></i>	Information sharing 1 (GH) (Ch 12) <u>and</u> Information sharing 2 (GH) (Ch 12) <i><u>Case 3 cont.</u></i>
Wednesday 10.30-12.15	The new product development process (PI) (Ch 4)	Global supply chain design and mapping (JT) (CH 6,7)	Chain performance measurement (JV) (Ch 13)
Thursday 13.30-15.15	New product development: risk management and target costing (MM)(Ch 4)	Core competences/supply chain rationalization (JT) (Ch 9, 10)	Evaluation case 3 PI/GH
Friday 13.30-15.15	Strategic supply chain cost management (MM) (Ch 8) <i><u>Introduction case 2</u></i>	Evaluation case 2 <u>JV/MM</u>	

(*) Cases will run throughout the week, starting on Monday or Friday with additional assignments the days after. Students have to deliver their cases to the lecturers that gave the assignments: in the first week on Friday at 18.00 hrs at the latest, in the second week on Thursday at 18.00 hrs at the latest and in the third week on Wednesday at 18.00 hrs at the latest

Lecturers:

GH Dr ir Gertjan Hofstede
JT Dr Jacques Trienekens
JV Prof Dr ir Jack van der Vorst
MM Dr ir Miranda Meuwissen
PI Dr Paul Ingenbleek

Lectures and case discussion meetings

13-2: Introduction (Jacques Trienekens)

This lecture will include an introduction to supply chain management (SCM) and how it is related to company strategy in the dynamic (global) business environment. The definition of SCM as "the design and management of seamless, value-added processes across organizational boundaries to meet the real needs of the end customer", will be explained. Various forms of collaboration between companies and supporting mechanisms will be discussed: internal integration, backward integration, forward

integration, complete forward or backward integration. Furthermore, key areas for decision making in SCM will be explained. In the lecture various examples of food supply chains will be given.

Case 1: Hand-out

14-2: Customer fulfillment strategies (Paul Ingenbleek)

Customer is king! With more information becoming available by ICT, customers are getting more and more demanding up and down the chain. Consequently, a company's competitiveness now fully depends on the extent in which the company succeeds in delivering the value customers expect. In the lecture we will discuss the key factors a company must focus on in order to deliver customer value. These factors are: *quality, cost, flexibility, delivery, and innovation*. In this respect we stress that customers do not just buy products; they purchase a set of satisfactions that come from buying, using, and servicing a product. Customers are only satisfied when their actual experience with a product or service meets expectations. Three customer fulfillment strategies can be followed: customer service, customer satisfaction and customer success. The focus and limitations of each of these three strategies are discussed to subsequently outline the key-aspects of the process of implementing a customer-centric fulfillment strategy.

14-2: Process thinking in SCM (Jacques Trienekens)

In this lecture the shift in from functional organization thinking to a process orientation, which requires efficient and effective cooperation between functional departments, will be the starting point of the discussion. A process is viewed as a set of identifiable flows and value-added activities. The process approach is coherent with systems thinking and links the company's strategy and its customer focus to use of resources and organizational set-up. In the lecture also process reengineering, as the radical redesign of business processes, will be discussed. Various case studies will complement the lecture.

Case 1: follow-up assignment

15-2: The new product development process (Paul Ingenbleek)

Business success is short-lived for companies that do not respond to the needs of the customer. The customer is the driver of SCM. Everyone in the chain should focus on the same end customer, and meeting that customer's needs. Here, the interface between marketing and SCM lies in developing the right product at a fair price and then positioning it properly in the marketplace. In this lecture marketing research techniques and processing of market information are discussed that help the new product development team in successfully developing and launching new products and services.

16-2: New product development: risk management and target costing (Miranda Meuwissen)

In new product development there are, besides customer satisfaction, two further issues that are crucial to the success of new product development: risk management and financial viability of the new product or service. With regard to risk management this lecture explains the various sources of risk (risk identification) and several ways of assessing the size of risks. In the field of the financial viability we will discuss target costing and a number of key financial metrics.

17-2: Strategic supply chain cost management: framework, tools and assessment (Miranda Meuwissen)

In evaluating supply chain designs from a cost management point of view it is important to set the evaluation framework right (supply chain analysis, value proposition analysis and cost driver analysis) and to select the proper cost evaluation tool. This lecture focuses on these issues and elaborates on the tool of total cost of ownership analysis. Also, combining the knowledge of supply chain mapping, value propositions and supply chain cost management we will discuss the concept of "win/win" and the distribution of costs and benefits along the supply chain.

Case 2: Hand-out

20-2: Evaluation Case 1 (Jacques Trienekens)

21-2: Order fulfillment 1 (Jack van der Vorst)

This lecture discusses the history of Logistics Management and Supply Chain Management and presents case examples of current logistical developments in food supply chains. We will focus on the *Bullwhip effect* which characterises traditional supply chains with lack of coordination resulting in a degradation of service and an increase in cost within a supply chain. We describe various obstacles that lead to this lack of coordination and exacerbate *variability* through the supply chain. We then identify appropriate managerial levers that can help overcome the obstacles and achieve coordination. Finally, we will discuss supply chain decisions each manager has to take and the impact of specific characteristics of food industry on these decisions.

21-2: Order fulfillment 2 (Jack van der Vorst)

This lecture describes how purchasing, production, and logistics decisions work together to create customer value using the *SCOR* model. We identify and describe the steps in the purchasing process. We identify and discuss *design and control decisions* in production operations management and discuss the *Customer Order Decoupling Point*. Describe the underlying principles and practices lean manufacturing. The key decision-making elements of the logistics process are discussed and particular attention is given to order *fulfilment, transportation, and distribution strategies*. Finally, we describe how physical flow decisions affect the cost and service positions of the company as well as the design of the overall supply chain.

Case 2: Follow-up assignment

22-2: Global supply chain design and mapping (Jacques Trienekens)

In this lecture SCM, as a strategic response to changes in the (global) competitive environment of companies will be discussed. Competition, consolidation of companies, increasing consumer demands and new value adding opportunities are amongst these changes. An instrument that can help to identify challenges in the business environment is environmental scanning as the acquisition and use of information about events, trends and relationships in an organization's internal and external environment. Furthermore, the building of global supply chain networks, as an answer of companies to deal with uncertainties and challenges in their business environment, will be discussed. This lecture will also go shortly into supply chain mapping techniques that can support supply chain analysis and design.

23-2: Core competences/supply chain rationalization (Jacques Trienekens)

In the lecture first the make-or-buy decision will be discussed. It will be explained that companies nowadays focus more and more on those activities that can distinguish them from their competitors and for which they possess unique, hard to imitate, competences. Activities that can better be performed by others in the supply chain, should be outsourced. However, the outsource - insource decision must be viewed as a dynamic one; indeed the business environment is dynamic! In this lecture also rationalization choices and role shifting in supply chains will be discussed. Various cases of international food chains and how these develop in a globalizing world will complement the lecture.

24-2: Evaluation Case 2 (Jack van der Vorst/ Miranda Meuwissen)

27-2: Relationships management (Paul Ingenbleek)

Establishing good relationships with current and potential SC members is essential to the success of any company's competitive strategy. In today's cutthroat, yet resource-constrained world, the key is to establish an appropriate relationship with each member of the supply chain. Although the intensity of SC relationships will vary greatly, each relationship must be designed to achieve efficient, fair, and

reasonable relations. Marketing theory helps to understand this diversity of relationships as it is concerned with two questions: 1. Why do people and organizations engage in exchange relationships? and 2. How are exchanges created, resolved, or avoided? Topics to be discussed include, among others, strategic alliances, trust, and the negotiation process.

Case 3: Hand-out

28-2: Information sharing 1 (Gertjan Hofstede)

In this lecture we will focus on how technology enables an information sharing capability to support SC collaboration. An overview will be given of the various SC-related information technologies and information systems that have been developed over the past several decades for information exchange within organizations as well as between organizations. Of course the impact of the Internet and e-commerce with special reference to supply chain management will be discussed.

28-2: Information sharing 2 (Gertjan Hofstede)

In this lecture the role of various systems like ERP as a collaboration enabler as well as the difficulties associated with their implementation will be discussed. Identify what information should be shared, who should be sharing this information along the supply chain, and the challenges involved in information sharing. Current developments including the implementation of RFID technology and the consequences for related information systems and various partners in the supply chain will be sketched.

Case 3: follow-up assignment

29-2: Chain performance measurement (Jack van der Vorst)

This lecture describes the role of measurement in shaping a company's culture and achieving results. We discuss the strengths and weaknesses of traditional *measurement practices* and explain how *world-class SC measurement* (using scorecards and benchmarking principles) improves alignment, emphasizes customer orientation, promotes process integration, and facilitates collaboration. We will identify and implement appropriate measures to manage and monitor important processes and relationships.

1-3: Evaluation Case 3 (Paul Ingenbleek/ GertJan Hofstede)