

## SUSTAINABLE SUPPLY CHAIN MANAGEMENT

<b>Course code</b>	<i>GRAB009</i>
<b>Level of studies</b>	<i>Graduate</i>
<b>Number of credits</b>	<i>6 ECTS; 36 class hours, 124 hours of self-study, 2 hours of consultation</i>
<b>Course coordinator (title and name)</b>	<i>Dr. Christopher Kronenberg, <a href="mailto:christopher@kronenberg.at">christopher@kronenberg.at</a></i>
<b>Prerequisites</b>	<i>Undergraduate diploma</i>
<b>Language of instruction</b>	<i>English</i>

### THE AIM OF THE COURSE

Supply chain management is becoming an increasingly important aspect of the business world. Products are sourced, manufactured and transported on a global scale, leading to the need for skilled specialists in this area. These specialists also need to be increasingly aware of the wider impacts of these activities, with a focus beyond just economic impacts.

Supply chains are complex adaptive systems that are composed of structures, processes and managerial activities which facilitate the flows of products, services, finances and information in (to and) from raw material suppliers to (and from) consumers. They are highly affected by the sustainability challenge and trying to utilize developments in technology, alternative ways of service provision, networking strategies and other managerial initiatives to tackle with this challenge. Introduction of the circular economy concept is altering the way linear supply chains are designed which requires the development and adoption of new strategies at different layers of supply chains.

Significant changes are required in management of supply chains around the world to achieve the UN's Sustainable Development Goals. These changes are needed to be done on all three dimensions of the triple bottom line, namely the economy, the society and the environment. Furthermore, changes do not only affect the actors that are involved in production of goods and services but also all the other actors that are involved in distribution, collection or storage of those offerings. It is a mentality change in supply chain management that aims to end the difference between supply chain management and sustainable supply chain management and treat environmental and social performance of supply chains as equally and even more valid than economic performance.

The aim of the course is to provide students with knowledge on sustainability in and sustainable development of contemporary supply chains, ranging from suppliers and customers towards logistics services providers and consumers. The course is based on a full supply chain perspective including multiple actors from raw material suppliers, to customers and even post-consumption, second-cycle supply chain members. The links and flows between these actors are covered in relation to sustainable products and services being offered in these structures and managing the sustainability of the actors themselves.

### LEARNING OUTCOMES

<b>Course learning outcomes (CLO)</b>	<b>Study methods</b>	<b>Assessment methods</b>
CLO1. To understand the role of value creation and impact measurement in managing future-fit businesses.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project
CLO2. To analyze and evaluate the value creation process of a company from sourcing via production to sales.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project
CLO3. To develop an impact-oriented value chain which creates positive impact for all stakeholders.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project
CLO4. To enable management decisions based on data on value creation and impact towards society.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project
CLO5. To develop a new mindset among leaders based on real value creation and positive impact which enables them to build future-fit business models.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project

CLO6. To critical reflect actual business strategies and transform them towards impact oriented business models.	Lectures, readings, case studies, self-study, in class discussions	Participation, Individual assignment, team project
CLO7. To apply the knowledge in a team project	Lectures, self-study, group work	Team project

### ACADEMIC HONESTY AND INTEGRITY

The ISM University of Management and Economics Code of Ethics, including cheating and plagiarism are fully applicable and will be strictly enforced in the course. Academic dishonesty, and cheating can and will lead to a report to the ISM Committee of Ethics. With regard to remote learning, ISM remind students that they are expected to adhere and maintain the same academic honesty and integrity that they would in a classroom setting.

### COURSE OUTLINE

Session	Date and place	Topic	In-class hours	Readings
1	March 11, 2024 online	Introduction to the course and assignments.  The Science of Sustainability	4	Chapter 2, Grant et al.
2	March 18, 2024 online	Logistics and Supply Chain Management	4	Chapter 1, Grant et al.  <i>Audi: Raw Materials, Road, Recycling – How Life Cycle Analysis Influences Product Development</i> by Peter Tropschuh and Martina Biendl. In: Michael D'heur (ed.) Sustainable Value Chain Management.
3	April 10, 2024 In-class	Sustainable Purchasing and Procurement  Discussion of individual / pre-class assignment; presentations of group outcomes	4	Chapter 6, Grant et al.  <i>Telling the Backstory: Transparency in Global Value Chains</i> by Georg Lahme and Volker Klenk. In: Michael D'heur (ed.) Sustainable Value Chain Management.
4	April 11, 2024, In-class	Product Design, Cleaner Production and Packaging	4	Chapter 5, Grant et al.  Walker, S. and Dorsa, E. (2001) Making design work: Sustainability, product design and social equity. <i>The Journal of Sustainable Product Design</i> , 1, 41-48.
5	April 12, 2024 In-class	How to build Sustainable Customer Relations and future-fit sales strategies.	4	<i>Fairphone: Sustainability from the Inside-Out and Outside-In</i> by Tessa Wernink and Carina Strahl. In: Michael D'heur (ed.) Sustainable Value Chain Management.  <i>Siemens: Managing Sustainability along the Value Chain to Benefit our Customers</i> by Ralf Pfitzner and Matthias Lutz. In: Michael D'heur (ed.) Sustainable Value Chain Management.
6	April 13, 2024 In-class	Reverse Logistics, Recycling and the Circular Economy  Team project work & feedback	8	Chapter 7, Grant et al.  Ellen MacArthur Foundation – please have a look at the website and learn about the Circular Economy

<b>7</b>	April 16, 2024 online	Sustainable Supply Chain Management Strategy	4	Chapter 9, Grant et al.  <i>Nestlé: Sustainability Value Chain Management from the Farm to the Fork</i> by John Bee et al. In: Michael D'heur (ed.) Sustainable Value Chain Management.  <i>Sumrise and Vanilla: Tradition, Strategy, and Total Commitment</i> by Stephan Sielaff et al. In: Michael D'heur (ed.) Sustainable Value Chain Management.
<b>8</b>	April 23, 2024 online	Team project presentations	4	
			<b>Total: 36 hours</b>	

### FINAL GRADE COMPOSITION

Type of assignment	Self-study hours	% of the total grade
Individual submissions / Pre-class assignment	40	20%
Participation	24	15%
Team project	60	65%
<b>Total:</b>	<b>124</b>	<b>100</b>

### DESCRIPTION AND GRADING CRITERIA OF EACH ASSIGNMENT

All topics, presentation materials and literature addressed in the course are subject to examination.

In order to pass the course, attendance and participation at the compulsory activities are required:

- Passing the **individual assignment submission**
- Active work in the **project**, and hand-in of a report
- Attendance and active participation in **lectures**

#### Assessment 1. Individual assignment submissions / Pre-class assignment (20%)

Dive into the literature – practical and academic – and identify and describe challenges and opportunities related to sustainable supply chain management, the transformation towards sustainable supply chain management, etc. You could use 1) an academic approach, discussing the latest academic literature within this field or 2) apply a practical approach by discussing a case example and summarising e.g. a company's challenges related to sustainable supply chain management.

#### Assessment 2. Participation (15%)

Students are expected to actively participate in class discussing and analysing cases as well as materials read before the class. Attendance is compulsory and is taken at each class. The students are evaluated based on the knowledge shown during the analyses and discussions (frequency and quality of contributions to class discussion). Participation includes the moderation of one article or case discussion in class.

#### Assessment 3. Team project (35%)

The project is a group work for 3-4 students in each group. Each group chooses one case company on their own. A sustainable strategy is to be developed for the case company's supply chain strategy – either for the whole supply chain or a defined part. The project is based on a real company's supply chain. This means that the different cases might differ in terms of problem description and expected results. You shall contact the company for information, but you must discuss the task and the selected company with the lecturer before you can start your work. Your task is to write a report for the CEO of the company. Details on the content of the team project report and other requirements will be discussed during the first class of the course.

## REQUIRED READINGS AND FURTHER LITERATURE

### Main textbooks and pre-readings for in-class use

Grant, D.B., Trautrim, A., Wong, C.Y. (2023) Sustainable Logistics and Supply Chain Management (3rd edition), Kogan Press, London.

D'heur, M. (ed.) (2015) Sustainable Value Chain Management. Springer, Heidelberg.

Walker, S. and Dorsa, E. (2001) Making design work: Sustainability, product design and social equity. *The Journal of Sustainable Product Design*, 1, 41-48.

Ellen MacArthur Foundation <https://ellenmacarthurfoundation.org/>

### Additional Readings if you want to learn more about this and related topics

Allen, M. (2016) Strategic Communication for Sustainable Organizations.

Altenburger, R. (Ed.) (2018) Innovation Management and Corporate Social Responsibility.

Balcik, B., Beamon, B. M., Krejci, C. C., Muramatsu, K. M., & Ramirez, M. (2010). Coordination in humanitarian relief chains: Practices, challenges and opportunities. *International Journal of Production Economics*, 126(1), 22-34.

Baumann, H. and Tillman A.-M. (2004) The hitchhiker's guide to LCA: an orientation in life cycle assessment methodology and application. Lund: Studentlitteratur. 543 s. Chapter 1 p.19-41. Available on Canvas

Blackburn, J.D., Guide Jr., V.D.R., Souza, G.C. & Van Wassenhove, L.N. (2004), Reverse Supply Chains for Commercial Returns, *California Management Review*, 46(2)2, pp. 6-22.

Bostrom, M., 2014. Between monitoring and trust. Commitment to extended upstream responsibility. *J. Bus. Ethics*. <http://dx.doi.org/10.1007/s10551-014-2277-6> (Links to an external site.)

Bostrom, M., A.M. Jonsson, S. Lockie, A.P. Mol, P.Oosterveer Sustainable and responsible supply chain governance: challenges and opportunities *J. Clean. Prod.*, 107 (2014), pp. 1-7 <https://www.sciencedirect.com/science/article/pii/S0959652614012372> (Links to an external site.)

Carbone, V., Rouquet, A., & Roussat, C. (2018). A typology of logistics at work in collaborative consumption. *International Journal of Physical Distribution & Logistics Management*, 48(6), 570-585.

DHL Trend Radar Report 2018/2019, available on Canvas.

Göçer, A., Fawcett, S., & Tuna, O. (2018). What Does the Sustainability-Risk Interaction Look Like? Exploring Nuanced Relationships in Emerging Economy Sustainability Initiatives. *Sustainability*, 10(8), 2716. <https://www.mdpi.com/2071-1050/10/8/2716> (Links to an external site.)

Hutchins, M. J., & Sutherland, J. W. (2008). An exploration of measures of social sustainability and their application to supply chain decisions. *Journal of cleaner production*, 16(15), 1688-1698.

Jahre, M., Pazirandeh, A., & Van Wassenhove, L. (2016). Defining logistics preparedness: a framework and research agenda. *Journal of Humanitarian Logistics and Supply Chain Management*, 6(3), 372-398.

Kovács, G., & Spens, K. M. (2007). Humanitarian logistics in disaster relief operations. *International Journal of Physical Distribution & Logistics Management*, 37(2), 99-114.

Large, R. O., Kramer, N. & Hartmann, R. K. (2013). Procurement of logistics services and sustainable development in Europe: Fields of activity and empirical results, *Journal of Purchasing and Supply Management*, 19(3), 122-133.

Lüdeke-Freund, F., Gold, S., & Bocken, N. M. (2019). A review and typology of circular economy business model patterns. *Journal of Industrial Ecology*, 23(1), 36-61.

McKinnon, A. (2016), "Freight transport deceleration: Its possible contribution to the decarbonisation of logistics", *Transport Reviews*, Vol. 36, No. 4, pp. 419-436.

Pazirandeh, A., & Maghsoudi, A. (2017), "Improved coordination during disaster relief operations through sharing of resources", *Journal of the Operational Research Society*, 1-15.

Seuring, S., & Müller, M. (2008). From a literature review to a conceptual framework for sustainable supply chain management. *Journal of cleaner production*, 16(15), 1699-1710.

Tachizawa, E. M., & Yew Wong, C. (2014). Towards a theory of multi-tier sustainable supply chains: a systematic literature review. *Supply Chain Management: An International Journal*, 19(5/6), 643-663.

Turker, D., & Altuntas, C. (2014). Sustainable supply chain management in the fast fashion industry: An analysis of corporate reports. *European Management Journal*, 32(5), 837-849.

Wilhelm, M., Blome, C., Wieck, E., & Xiao, C. Y. (2016a). Implementing sustainability in multi-tier supply chains: Strategies and contingencies in managing sub-suppliers. *International Journal of Production Economics*, 182, 196-212.

Wilhelm, M. M., Blome, C., Bhakoo, V., & Paulraj, A. (2016b). Sustainability in multi-tier supply chains: Understanding the double agency role of the first-tier supplier. *Journal of Operations Management*, 41, 42-60.

Wu, Z., & Pagell, M. (2011). Balancing priorities: Decision-making in sustainable supply chain management. *Journal of operations management*, 29(6), 577-590.