

### Sustainable Innovation Management (Bachelor, M.Sc., and MBA)

This syllabus serves as an illustrative example of how to incorporate the concepts and principles from the book “Sustainable Business Model Design – 45 Patterns” into a comprehensive academic course on “Sustainable Innovation Management” with a focus on sustainable business design.

It builds on the authors’ works on values-based and sustainable innovation management, especially their books on “Values-Based Innovation Management”, “Gamification for Innovators and Entrepreneurs”, and “Sustainable Business Model Design – 45 Patterns”. The course introduces students to basic concepts of sustainability and innovation management, and provides a thought-provoking exploration of sustainable innovation practices and methods, design patterns, and cultural issues. It empowers students to drive the sustainability transformation based on a profound understanding of sustainability challenges, innovation frameworks and actionable insights from research on sustainable innovation, its management, and culture.

The authors have successfully delivered similar courses at various international business schools and universities. Hundreds of students and executives have already benefited from learning the fundamental concepts and skills of sustainable innovation management and sustainable business model design.

If you have questions or want to share feedback, which would be much appreciated, send a message via <https://www.sustainablebusiness.design/#contact>.

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## **Sustainable Innovation Management**

Incl. an introduction to “Sustainable Business Model Design”

### **I – Course characteristics**

- Contact hours: 25-30 hours
- Course type: core course or elective
- Format: lecture, flipped classroom, group work, workshop
- Prerequisites: none

### **II – Course outline**

Threats of global polycrisis, volatile markets, the transition towards a sustainable economy, associated frameworks and regulatory agendas, technological breakthroughs as well as changing societal values, all create new challenges, unforeseen opportunities, and desirable possibilities for companies.

Sustainable innovation management addresses these challenges, explores emerging opportunities, and contributes to sustainable development. Advanced skills and competencies of next generation leaders, managers, entrepreneurs, and change-makers are required to understand related challenges and to navigate the ongoing sustainability transition.

This course introduces the basic concepts and methods for sustainable innovation. It focuses on proven patterns to re-design business in order to create ecological, social, and economic value. It covers basic concepts and frameworks of innovation, sustainability, and their management and provides insights how to turn them into cultural practice. Students will learn about different innovation management approaches (such as values-based and responsible innovation, disruptive innovation, lean venturing), standards like ISO 56002, and regulatory frameworks for sustainable innovation. Distinguishing between innovation dimensions (like product, process, organisational, and business model innovation) and (operational, strategic, and normative) management dimensions, we critically discuss opportunities for creating sustainable business models and establishing new innovation culture.

Particular attention will be paid to sustainable business model design as a novel extension of sustainable innovation management. Business model innovation will be introduced as a tool to make a company's core business activities more sustainable and to overcome the limitations of its current way of doing business. Students will make use of 45 patterns for sustainable business model design in a case-based, one-day hands-on workshop. This interactive format allows experiencing sustainable business model design in practice.

### **III – Assurance of learning (AoL)**

*[Note to teachers: Add your programme- and course-specific learning goals (LG) and learning objectives (LO), and specify their respective level: I= Introduction, E= Emphasis, R= Reinforcement.]*

For example, learning goals (LG) such as:

- To exhibit awareness of different stakeholder values. To exhibit **critical and creative thinking**.
- To develop a comprehensive understanding of **principles, practices, and methods of sustainable innovation**.
- To develop team-building and **leadership skills and competencies** that can foster values-aware, responsible decision-making in sustainable innovation management.
- To exhibit **scientifically sound knowledge** of sustainable innovation, innovation strategy, and innovation culture.

And learning objectives (LO) such as:

- To **elicit** values of different stakeholders, strategic options, and operational constraints.
- To **analyse** sustainable innovation challenges and formulate managerially relevant recommendations.
- To **assess** strategic options based on an understanding of stakeholder values, organisational culture, regulatory frameworks, and future scenarios.
- To **navigate** relevant business model patterns and **synthesise** new business models.
- To **evaluate** the expected outcomes and impact of sustainable innovation and business models.
- To **develop** innovative approaches to put sustainable business models into practice.

#### IV – Learning goals: What will students be expected to achieve?

This course is designed for students who will either engage in highly internationalised environments (such as multinational corporations) or as entrepreneurs in start-ups. Students will learn how to create sustainable innovations and business models as a way of aligning a company's core values and activities with ecologically, socially, and economically sustainable outcomes.

##### Knowledge and understanding

At the end of the course, the student will be able to ...

- understand the values-based and sustainability-oriented view on innovation and innovation culture,
- approach sustainable innovation challenges with appropriate management frameworks, methods and tools.

##### Skills (subject specific)

At the end of the course, the student will be able to ...

- to analyse a business situation taking stakeholder values and sustainability impacts systematically into consideration,
- select sustainable innovation management frameworks, methods, and tools to deal with these impacts.

##### Skills (cognitive and intellectual)

At the end of the course, the student will be able to ...

- understand different stakeholder values and tensions between them,
- identify innovation management approaches to address sustainability challenges,
- describe challenges for establishing sustainable innovation cultures.

### Skills (transferable)

At the end of the course, the student will be able to ...

- identify and analyse business situations and innovation management tasks related to sustainability challenges,
- prepare and give solution-oriented managerial presentations on business matters.

### Values and attitudes

At the end of the course, the student will be able to ...

- understand the strengths and limitations of sustainable innovation management,
- consider motivating values and sustainability-related outcomes and impacts of business activities.

## **V – How will students learn?**

*[Note to teachers: Select the modes and methods that are most appropriate to your setting. Mainly face-to-face formats are recommended, particularly for the sessions on sustainable business model design. You can also make use of additional online materials, incl. pre-readings and videos, e.g., from <https://www.coursera.org/learn/business-models-for-sustainability>.]*

### Delivery modes

- 100% Face to face
- 100% Face to face/teaching materials online
- 100% Online
- Blended

### Teaching Methods

- Lectures
- Case studies
- Business games
- Group work
- Projects
- Tutorials
- Workshop

### Knowledge acquisition

Sessions of 120 minutes are typically composed of 60 minutes of lecture and 60 minutes for additional tasks and interactive formats, including discussions, in-class assignments, and short case studies. Knowledge acquisition is reinforced through extensive case study work, hands-on group work, and a

workshop on sustainable business model design. Students must read the recommended materials and work on tasks between sessions to be sufficiently prepared.

### Skills acquisition

There will be several case studies and practical examples. In addition, students work in groups. A special feature of this course is a case-based, one-day hands-on workshop on the novel approach to values-based and sustainable business model design.

## VI – Course content

*[Note to teachers: The following outline is based on a 30-hours course, organised in 12 sessions of 150 minutes. You can scale the course according to your needs and preferred length by adapting the range of chapters and sessions per chapter, based on the recommended basic readings, in particular textbooks of Lüdeke-Freund et al. (2022), Breuer & Lüdeke-Freund (2017), and sources below.]*

This course consists of 12 sessions of 150 minutes and covers the following six chapters:

<i>Session &amp; subject</i>	<i>Specific topics</i>	<i>Assignment</i>
<b>Chapter I: Sustainable Innovation Challenges, Concepts, and Frameworks</b>		
<b><i>Session 1: Introduction to sustainable innovation challenges – values-based innovation and sustainable value creation</i></b>	<ul style="list-style-type: none"> <li>• A short history of innovation and sustainable development</li> <li>• Changing values, threats, opportunities, and challenges</li> <li>• Disambiguation (values versus value creation)</li> </ul>	von Hippel (2005); Rockström et al. (2023); Breuer & Lüdeke-Freund (2017), Chapter 1-3
<b><i>Session 2: Basic frameworks and concepts</i></b>	<ul style="list-style-type: none"> <li>• Frameworks for innovation and sustainable development</li> <li>• Values-based and responsible innovation, sustainable innovation and culture</li> <li>• The sustainability triangle and the integration challenge</li> </ul>	DIN EN ISO 56002; Breuer et al. (2022); Rasche et al. (2023), Chapter 1 & 10
<b>Chapter II: Sustainable Innovation Processes, Practices, and Methods</b>		
<b><i>Session 3: Reframing innovation theories and processes</i></b>	<ul style="list-style-type: none"> <li>• Sustainability-oriented innovation and reframing methods across the product and service innovation funnel</li> <li>• Revisiting user-driven, open and disruptive innovation, design thinking, blue ocean strategy, lean startup</li> </ul>	Adams et al. (2016); Breuer & Lüdeke-Freund (2017), Chapter 7; von Hippel (2005); Ries (2017)
<b><i>Session 4: Sustainable innovation practices and methods</i></b>	<ul style="list-style-type: none"> <li>• Informal and formal practices</li> <li>• Overview of methods (values elicitation and analysis, stakeholder dialogues, co-creation, gamification etc.)</li> </ul>	IMPACT (2023); Breuer (2022)

<b>Chapter III: Innovation Strategy and Culture</b>		
<b>Session 5: Sustainable innovation strategy</b>	<ul style="list-style-type: none"> <li>Exploring the innovation space</li> <li>Strategy, dynamic capabilities, and innovation strategy</li> </ul>	Tidd & Bessant (2014); Teece (2009); Ioannou & Serafeim (2019)
<b>Session 6: Sustainable innovation culture and ecosystems</b>	<ul style="list-style-type: none"> <li>Organisational culture &amp; the cultural side of innovation</li> <li>Establishing values-based innovation culture for sustainable business impact</li> <li>Innovation ecosystems</li> </ul>	Schein (2016); Jacobs (2014); Boenink & Kudina (2020); Breuer et al. (2021); IMPACT (2023); Breuer & Ivanov (forthcoming)
<b>Session 7: Guest speaker</b>	<ul style="list-style-type: none"> <li>Business expert presenting insights on sustainable innovation challenges, strategies, and culture</li> <li>[The business expert can also bring a challenge to work on for the rest of the course.]</li> </ul>	Do research on case company and prepare questions for guest speaker
<b>Chapter IV: Sustainable business model design (SBMD)</b>		
<p><i>[Note to teachers: This chapter aims at introducing the basics of sustainable business model design as a strategic and innovative extension of sustainability management. In this workshop, students will learn the basic concepts and skills of working with business model patterns. The following resources can be used by teachers to prepare this part of the course:</i></p> <ul style="list-style-type: none"> <li>▪ SBMD book: <a href="#">book preview</a></li> <li>▪ 45 SBMD cards: <a href="#">cards preview</a></li> <li>▪ Lecture slides: <a href="#">slide deck</a> (free download)</li> <li>▪ Detailed workshop concept: <a href="#">facilitation guide</a> (free download)</li> <li>▪ Business model worksheet: <a href="#">Business Modelling Kit</a> (free download)</li> </ul> <p><i>As additional preparation for the workshop for both teachers and students, the following MOOC is recommended: <a href="https://www.coursera.org/learn/business-models-for-sustainability">https://www.coursera.org/learn/business-models-for-sustainability</a>]</i></p>		
<b>Session 8: Introducing sustainable business model design</b>	<ul style="list-style-type: none"> <li>What is a business model?</li> <li>What is a values-based and sustainable business model?</li> <li>What is sustainable business model design?</li> </ul>	Breuer et al. (2018); Lüdeke-Freund et al. (2022), Chapter 2
<b>Session 9: Understanding and navigating business model patterns</b>	<ul style="list-style-type: none"> <li>What is a pattern for sustainable business model design?</li> <li>What types of patterns do exist and how can they be used?</li> <li>Introduction to the workshop format and main tools.</li> </ul>	Lüdeke-Freund et al. (2022), Chapter 3
<b>Sessions 10 &amp; 11: SBMD workshop, including result presentation</b>	<ul style="list-style-type: none"> <li>Introduction to the case and challenges to work on</li> </ul>	Familiarise yourself with the case company; Lüdeke-Freund et al. (2022), Chapter 4 (screen

	<ul style="list-style-type: none"> <li>• 240 minutes of active business modelling</li> <li>• Groups present their modelling results</li> </ul>	the 45 patterns / pattern cards) and 5
<b>Wrap-up</b>		
<b>Session 12: Reflection, Q&amp;A</b>	<ul style="list-style-type: none"> <li>• Q&amp;A (on all previous sessions and SBMD)</li> <li>• Q&amp;A on preparation for final exam</li> </ul>	Work on exemplary exam

## VII – How will students be assessed?

*[Note to teachers: Add your programme- and course-specific assessment and grading criteria. Add a reference to your examination rules. The following are examples.]*

### Assessment component, assessment type, weighting

- Written exam, individual grading, 50%
- Case study group work, group grading, 25%
- Sustainable business model design workshop, group grading, 25%

### Assessment criteria

Students will be assessed on their understanding of the material covered in the course and their ability to reproduce it in a written exam and apply it to new situations and cases in group work and workshop settings. Discussion questions must be answered and the students' capability to transfer their knowledge to different tasks and contexts will be checked.

### Assessment Regulations

The pass mark for the course is 50%, calculated as the weighted average of the individual and group performances.

### Feedback on assessment

Feedback will be provided through the exam and group work grades, through continuous verbal feedback in class, and in consultation hours.

## VIII – Reading list

*[Note to teachers: Add further specific readings, incl. books, journal articles, and business publications, which you can use to put special emphasis on selected topics.]*

### Basic readings

Adams, R.; Jeanrenaud, S.; Bessant, J.; Denyer, D. & Overy, P. (2016): Sustainability-oriented innovation: A systematic review, International Journal of Management Reviews, Vol. 18, No.2, 180–205. <https://onlinelibrary.wiley.com/doi/full/10.1111/ijmr.12068>.

Boenink, M. & Kudina, O. (2020): Values in responsible research and innovation: From entities to practices, *Journal of Responsible Innovation*, Vol. 7, No. 3, 450–470.

Breuer, H.; Lüdeke-Freund, F. & Bessant, J. (2022): [Managing Values for Innovation](#), *Int. Journal of Innovation Management*, Vol. 26, No. 5, 2201001

Breuer, H.; Fichter, K.; Lüdeke-Freund, F. & Tiemann, I. (2018): [Sustainability-Oriented Business Model Development: Principles, Criteria and Tools](#), *Int. Journal of Entrepreneurial Venturing*, Vol. 10, No. 2, 256-286.

Breuer, H. & Ivanov, K. (forthcoming): Bridging the Values-Action Gap in Sustainable Innovation.

von Hippel, E. (2005): *Democratizing Innovation*. Cambridge/MA. Available at SSRN: [ssrn.com/abstract=712763](https://ssrn.com/abstract=712763)

Jacobs, D. (2014): *The Cultural Side of Innovation. Adding Values*. Routledge.

Lüdeke-Freund, F.; Breuer, H. & Massa, L. (2022): *Sustainable Business Model Design – 45 Patterns*. Berlin. <https://www.sustainablebusiness.design/> (→ slides/instructor materials available)

Lüdeke-Freund, F.; Breuer, H. & Massa, L. (2023): *Sustainable Business Model Design – 45 Cards*. Berlin. <https://www.sustainablebusiness.design/> (→ slides/instructor materials available)

Rasche, A.; Morsing, M.; Moon, J. & Kourula, A. (2023): *Corporate Sustainability: Managing Responsible Business in a Globalised World*. Cambridge University Press. <https://www.cambridge.org/gb/universitypress/subjects/management/business-ethics/corporate-sustainability-managing-responsible-business-globalised-world-2nd-edition> (→ slides/instructor materials available)

Rockström, J.; Gupta, J.; Qin, D. et al. (2023): Safe and Just Earth System Boundaries, *Nature*, Vol. 619, 102–111, <https://doi.org/10.1038/s41586-023-06083-8>

Schein, E. (2016): *Organizational Culture and Leadership*, 5th Edition. Wiley.

Teece, D. (2009): *Dynamic Capabilities and Strategic Management*. Oxford University Press, New York.

Tidd, J. & Bessant, J. (2014): *Strategic Innovation Management*. Wiley (<https://www.johnbessant.org/> → instructor materials available)

### Professional readings

Breuer, H. (2022): [Eliciting stakeholder values for strategic and values-based innovation management](#). In: *The Proceedings of XXXIII ISPIM Conference: Copenhagen*.

Breuer, H.; Bessant, J. & Gudiksen, S. (2022): [Gamification for Innovator and Entrepreneurs. Using Games to Drive Innovation and Facilitate Learning](#). London: deGruyter (→ open access/instructor materials available)

Breuer, H.; Ivanov, K.; Abril, C.; Dijk, S.; Monti, A.; Rappaccini, M. & Kasz, J. (2021): [Building Values-based Innovation Cultures for Sustainable Business Impact](#). *Proceedings of ISPIM Innovation Conference 2021*, Berlin.



Breuer, H. & Lüdeke-Freund, F. (2018): [Values-Based Business Model Innovation: A Toolkit](#). In: Moratis, L.; Melissen, F. & Idowu, S. (Eds.): Sustainable Business Models, pp. 395-416. Springer.

Ioannou, I. & Serafeim, G. (2019): Yes, Sustainability Can Be a Strategy, Harvard Business Review, <https://hbr.org/2019/02/yes-sustainability-can-be-a-strategy>.

Young, D. & Gerard, M. (2022): Four Steps to Sustainable Business Model Innovation. BCG online: <https://www.bcg.com/publications/2021/four-strategies-for-sustainable-business-model-innovation>

Ries, E. (2017): The Lean Startup: The Startup Way: How Modern Companies Use Entrepreneurial Management to Transform Culture and Drive Long-Term Growth. New York/ USA.

#### Further professional resources

Harvard Business Review on Innovation (<https://hbr.org/topic/subject/innovation>) and on Sustainable Business Practices (<https://hbr.org/topic/subject/sustainable-business-practices>)

IMPACT – Project Materials (2023): Building values-based innovation cultures for sustainable business impact. An Erasmus+ Knowledge Alliance Project: <https://www.impact-project.site>

MIT Sloan Management Review's Sustainability Global Executives Studies: <https://sloanreview.mit.edu/projects/corporate-sustainability-at-a-crossroads/>

MIT Sloan Management Review's Strategy Forum: <https://sloanreview.mit.edu/mitsmr-strategy-forum/>

SF4S Project Materials (2023): Strategic Foresight for Sustainability. An Erasmus+ Innovation Alliance Project: <https://www.sf4s-project.com/>

UXBerlin Materials and Publications: <https://www.uxberlin.com/>

#### Additional resources for SBMD workshop

[SBMD website](#) / [book preview](#) / [cards preview](#)

[SBMD lecture slides](#)

[SBMD workshop facilitation guide](#)

[Business Innovation Kit](#)

[Podcast introduction to SBMD](#)

[Short video introduction](#)

[MOOC on “Business Models for Sustainability”](#)