



Research Area  
Technology,  
Innovation, Marketing,  
Entrepreneurship

**RWTHAACHEN**  
UNIVERSITY



## SYLLABUS

# MANAGING THE INNOVATION PROCESS (MIP)

## “In class” format 2021: Interactive live sessions via zoom

**PROFS. VERA BLAZEVIC & FRANK T. PILLER**

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RWTH Aachen University | School of Business and Economics

**TIME** Research Area | Lehrstuhl Technologie- und Innovationsmanagement  
[time.rwth-aachen.de](http://time.rwth-aachen.de) | Kackertstrasse 7, Aachen

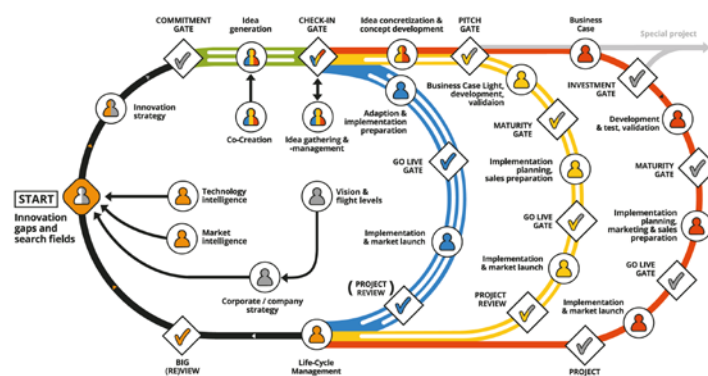
# 1 COURSE OVERVIEW

Course Name	<b>Managing the Innovation Process: In-Class</b>
Degree Programs	Master BWL   Master Wi.Ing.   Master Wirtschaftswissenschaften Note: This is a TIM Core Lecture
Lecturers	Prof. Dr. Frank Piller and Prof. Dr. Vera Blazevic
Coordinator	Sophie Prauser (prauser@time.rwth-aachen.de)
Location, Time	<b>Friday Fr 14:30 – 17:30 in Live Zoom Sessions</b> (and perhaps a seminar room at the end of the semester, if Corona allows). Due to the “flipped classroom format”, this class does not take place every week. <i>Check the timetable below!</i> <b>Note that the kick-off meeting on April 16 starts at 16:30!</b>

**Active participation and presentations from participants during the Zoom sessions are a core part of the grading** – hence it is strongly recommended that you use real names and switch your camera on during the online sessions so that we can allocate your contributions to your participation grade. *More information below.*

**You can also learn the same content in a pure asynchronous online format, following your own pace**, with the grade (100%) determined by an individual conventional exam at the end of the semester, **In case you prefer this non-interactive format, register for the class "MIP Online" by Prof. Piller.**

Content Description: This lecture follows the various activities along the **stages of the innovation process on the level of an innovation project**. It provides participants with a decision structure along these stages, following the “Big Picture” of innovation:



The main part of the lecture provides an introduction into methods of gathering need information and creative problem solving. We place a special emphasis on evaluation methods for idea screening and concept selection. The class will end by looking into the final stages of an innovation project (market launch) and the evaluation of project performance.

In participant presentations, we will learn about examples from industry and about new developments and discuss how they change the textbook knowledge. We will contrast our current understanding of the innovation process, as taught in this class, with upcoming conceptions of innovation, like Design Thinking, SCRUM, or agile iterative development.

**In this semester, we will use the Covid-19 Pandemic as our case study.**

Whereas the pandemic has tested the agility and resilience of many organizations, it forces a deeper look at the assumptions underlying understandings and frameworks that guide managerial decisions and organizational practices (Georges et al., 2020). In our class, we want to identify key innovation patterns during the Pandemic and then discuss how new areas practices for companies emerge based on the changed reality.

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Qualification Objectives:	Participants shall ... <ul style="list-style-type: none"><li>▪ understand different process structures of an innovation project, their contingencies, and central activities along the phases of the innovation process;</li><li>▪ know sources for customer need information and different approaches of market research and customer co-creation;</li><li>▪ know different methods supporting technical problem solving to generate solution information, including creativity techniques.</li><li>▪ know core theoretical work explaining success factors on the level of an innovation project and get insight into recent empirical research on these factors;</li><li>▪ be able to connect theories of innovation and models explaining innovation success with actionable knowledge for industry practice;</li><li>▪ develop the ability to critically reflect common perceptions about innovation management and gain their own understanding of the factors making an innovation project successful.</li></ul>
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Literature: See the individual sessions in Moodle

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Examination / Grading **50% of the grade** is based on **your class participation** (individual contributions during the (online) sessions and presentation of one paper in a group), **and 50%** based on your contributions to a **group paper** to be handed in after the lecture period. **Group allocation** is via self-selection in Moodle on the respective topic and date. We will explain this **during the kick-off session**.

**Information on the digital delivery of the course:**

All sessions will be **online in Zoom** to meet the Covid-19 requirements of RWTH Aachen. There is **no compulsory attendance or active participation** in this module. However, your performance during the sessions counts for 50% of the final grade.

Therefore, **video transmission** is recommended for the online sessions in order to enable an interactive learning atmosphere. The sessions will **not be recorded**. In addition, we ask you to indicate a clearly **identifiable name** so that we can assign your oral participation accordingly. ***If you do not approve this format with the necessary digital precautions, please choose another module (like MIP Online).***

**Guidelines for the "Colloquium" (class participation, 50%):**

**Grading:** Group grades for the presentation + individual grades for participation in the sessions.

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**Group presentation:** Prepare a **20-30 minutes live presentation or interactive exercise** with your peers (live in zoom and using appropriate platforms like Miro, Mural, etc ... ).

**Class participation during digital sessions:** This module is based on lecture videos which you need to watch and reflect before each session. In addition, you may also have to read a paper. You can use the chat function to raise questions or comments. For answers, raise your hand via Zoom and wait to be called to speak up. The professors might use "Cold Calls" at all times during the live session, if necessary. There also may be smaller group work tasks during the live sessions to facilitate interaction (e.g. preparation of a case discussion in small randomly assigned groups, presentation of prepared content in the plenum afterwards, or joint interactive development of content in open online documents).

**Guidelines for the "Exam Paper" (contribution to a group paper, 50%):**

Please refer to Section 5 below.

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Participation Requirements:	<ul style="list-style-type: none"><li>▪ Solid command of English</li><li>▪ This class demands the <b>continuous participation in the class discussions</b> and the <b>preparation of the video lectures, case materials, and paper assignments before each session</b>. Preparation for each session is approx. 3-4 hours.</li></ul>
Group Size:	36 participants (max). <i>Erasmus and exchange students on the <u>master level</u> are invited to register to the class via the Exchange Office of the School of Business &amp; Economics.</i>
Workload:	Approx. 40 hours of lecturing and exercises Approx. 90 hours of individual preparation
Type of Teaching:	Video lectures, interactive lectures, homework, student presentations, method exercises. The course will be managed via the <b>e-learning platform Moodle</b> . You can register after admission to the class.
Language:	All lectures and materials will be in English language.
Credits:	5

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**IMPORTANT: After admission to this class, we kindly ask you to send a recent photo of you to [leckel@time.rwth-aachen.de](mailto:leckel@time.rwth-aachen.de)**

Please **attach the picture in jpg format** and **name the file** according to the following pattern: ***last-name\_first-name.jpg***. (e.g. *Prauser\_Sophie.jpg*)

**Without the picture, it is hard for us to evaluate your class participation!**

## 2 COURSE ORGANIZATION

### Schedule for Managing the Innovation Process Summer Term 2021

The course comprises of weekly **video lectures** and **seven in-class sessions**:

- **Video lectures:** You need to watch and study these video lectures (45-60 minutes per module) before each in-class session. **Videos are available via Moodle.** There, you will also find the PDFs of the slides and companion literature.
- **In-class sessions:** In 3-hour in-class sessions, the instructor will interactively discuss the video content and extend it by concrete methods, recent research, and case studies. Materials for and slides of the In-class sessions will be delivered in **Moodle**.

Modules	Video lectures <i>(prepare at home at your own pace)</i>	Live Sessions & Instructors
Week 0 12 -16 April	<b>Kick-Off</b> - Introduction Video & Best of MIP Overview Video	<b>16 April, 4.30 – 5.30 pm CET</b> <b>Profs. Blazevic &amp; Piller</b> Kick-Off, organizational information and <b>group allocation</b>
Week 1 19 -23 April	<b>Introduction into the Innovation Process</b> - TIM Bootcamp <i>(if not already seen before)</i> - The Big Picture - Case to prepare: IDEO product development	<b>23 April, 2.30-5.30pm CET</b> <b>Prof. Piller</b> TIM Basics
Week 2 26 -30 April	<b>The Frontend of Innovation (FEI)</b> - Trend Analysis and Opportunity Recognition - Methods of Trend Analysis and Opportunity Recognition	
Week 3 3 -7 May	- Starting an Innovation Project: Strategy Phase - The Product Innovation Charter - Idea Generation & Enrichment - Concept Generation	<b>7 May</b> <b>Prof. Blazevic</b> FEI – Opportunity <b>Groups 1 and 2</b>
Week 4 10 -14 May	- Generating Market Insights: “Voice of the Customer” and ODI	
Week 5 17 -21 May	- Empathic Design: Observing customers and users - Co-Creation: Gathering Ideas and Concepts from the Periphery	<b>21 May</b> <b>Prof. Piller</b> FEI – Customer Insights <b>Groups 3 and 4</b>
Week 6 24 -28 May	<b>Development Stage</b> - Technical Problem Solving - Product protocol	
Week 7 31 -4 June	- Experimentation as a core activity of problem solving - TRIZ (or TIPS): Theory of Inventive Problem Solving - Open Innovation	<b>04 June</b> <b>Prof. Piller</b> Development <b>Groups 5 and 6</b>

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Week 8 7 – 11 June	<b>Creativity theory and techniques</b> <ul style="list-style-type: none"><li>- Part I: What is creativity?</li><li>- Part II: Different Schools of Creativity</li><li>- Part III: Amabile's Componential Theory of Creativity</li><li>- Part IV: Creativity techniques</li></ul>	<b>11 June</b> <b>Prof. Blazevic</b> Creativity <b>Groups 7 and 8</b>
Week 9 14 -18 June	<b>Evaluating and Screening</b> <ul style="list-style-type: none"><li>- Part I: Innovation is Experimentation</li><li>- Part II: Scoring Models for Internal Selection</li><li>- Part III: Concept Testing with Customers</li><li>- Part IV: Rapid Experimentation</li></ul>	<b>18 June</b> <b>Prof. Blazevic</b> Evaluation <b>Groups 9 and 10</b>
Week 10 21 -25 June	<b>Launch and Nurture stage</b> <ul style="list-style-type: none"><li>- Diffusion and Adoption</li><li>- Sales Forecasting: ATAR model</li><li>- "Crossing the chasm" or: not all people are the same</li><li>- A model of consumer reactions towards new products</li><li>- Methods and principles</li><li>- Ramp Up of Manufacturing</li></ul>	<b>25 June</b> <b>Prof. Piller</b> Launch <b>Groups 11 and 12</b>
Week 11 28 June - 2 July	<b>Project Review</b> <ul style="list-style-type: none"><li>- Project controlling and KPIs for Innovation</li><li>- Recap Video</li></ul>	<b>2 July</b> <b>Prof. Blazevic &amp; Piller</b> Final Q&A, Consulting for your final paper

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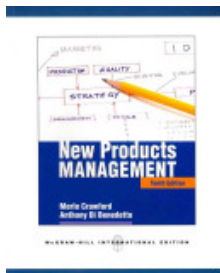
**Deadline to submit exam paper: 27. August 2021**

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### 3 REQUIRED READINGS AND CLASS MATERIALS

Required readings and case assignments for each session will be communicated during the first session and via Moodle to all class participants.

To clarify certain aspects, we recommend the following textbooks for this class:



This customer-centric perspective on innovation management helped us to outline the class, and we refer frequently to it:

Charles Merle Crawford & Anthony Di Benedetto: **New Products Management**, 10th edition, New York: McGrawHill, 2011.

*Note that also an 11th edition (2014) is available of this book, which of course can also be used for the class. However, the RWTH library mainly stocks the 10th edition (2011).*



Another good book we will refer to frequently is:

Steven Eppinger and Karl Ulrich. **Product Design & Development**, 4th edition, New York: McGrawHill, 2008.



The “Big Picture” framework that we use throughout the class is described in more detail in this short book

Hans Joachim Lercher: **Big Picture: The Innovation Model**. Graz: Campus02, 2nd edition, 2020. Available for free download at SSRN: <https://ssrn.com/abstract=2965373>



## 4 DETAILED SESSION OUTLINES & ASSIGNMENTS

**Live Sessions:** Please refer to Moodle for literature and mini case assignments!

Before each session, you have to **watch at least the videos marked mandatory** in Moodle. For some class sessions you have two, for others only one week to prepare. Plan ahead! Other videos are **optional**, and we recommend those for a deep-dive AFTER the class.

For some sessions, you also need to read a few additional papers or short case studies. Apart from Class 1, there are **no Harvard case studies** in this class.

## 5 GROUP ASSIGNMENT: PRESENTATION & EXAM PAPER

***Detailed information will be provided in the kick off session!***

### 5.1 Task

The topic of this year's MIP In-Class is: **"What can we learn from the Reactions to the Covid-19 Pandemic for the Corporate Innovation System of the Future"?**

Your task is to **present and write an academically grounded case study on the genesis of a recent innovation or a new method for the innovation process, as a consequence of the Covid-19 pandemic**. You will get input from your instructors, but your main task is to do your own research on the internet, conduct interviews, and read the academic literature.

***The following instructions need to be updated – this was the task of the last edition of this class for your reference:***

**Answer the following questions** (*this is a not exclusive list, you can also answer further questions of your own*) – both from the **applied perspective of the actual case** and from a **normative reflection of the literature** and lectures of this MIP class (*this means: always take two perspectives: Say what the team / innovator probably did and what they should have done (additionally) according to our class and literature*):

- What was the opportunity recognized? Who are the people recognizing this opportunity? Why?
- What were customer insights? How were they generated?
- What were the core assumptions and resulting decisions in setting up the project (PIC)?
- What was the logic of the innovation process (stage gate, agile development, hybrid, etc ...)
- What makes the product/service idea feasible from a technical and a market perspective?
- What would you recommend the team / innovator to do next?
  - How would you (re)design the product/service?
  - What are open technological challenges?
  - What are the key adoption and diffusion factors for your project? What is the launch plan?
  - How to address probable customer reactions and reactions from competitors or other stakeholders?
- Finally, how do you evaluate the chances of success of this concept/idea? How would you evaluate these chances methodologically, and how would you perform an assessment of the overall success of this innovation?



**You have four opportunities for feedback:**

- ❖ Talk with your professor just after group formation on your topic area.
- ❖ Present your chosen ideas during your group presentation in class
- ❖ Get feedback on your paper prototype in our last session on July 2.
- ❖ Schedule one extra consultation with one of the professors or the teaching assistant

## 5.2 Structure, formatting and word count

- *Find a suitable structure to organize your presentation and report.* This is a group exercise, where you will provide a structured analysis of the assignment above.
- **The maximum page limit is 12.000 words**, excluding tables and references.
- **Add a title page** including your names and study programs ("Studienfach").
- Write your paper in regular academic style, using citations and references etc. For the formatting and citation style, **follow Sections 4&5 of the TIME guidelines for student papers** and theses, <http://www.time.rwth-aachen.de/cms/TIME/Studium/~ecar/Betreuung-von-Abschlussarbeiten/lidx/1/>

**In the paper, indicate in the TOC clearly which group member was responsible for which section!**

## 5.3 Dates and feedback

**Your group paper is due at the date given in the timetable above via RWTH Moodle.**

Note: While this is a group exercise with a group grade, participation of every member of each group will be evaluated via a **peer evaluation tool among all group members to prevent free riding.**

## 5.4 Withdraw from this class

In case you want to **withdraw your registration to this class and the final examination (group paper)**, you have to do so

- Until one day after the kick-off via RWTHonline ("Orientierungsabmeldung").
- Or until three working days before the last examination date (group paper deadline) via RWTHonline ("Prüfungsrücktritt").

However, **DON'T LET YOUR GROUP END UP WITHOUT YOUR PROMISED CONTRIBUTION SHORTLY BEFORE THE FINAL DEADLINE!!!! PLAY FAIR AND WITHDRAW FROM YOUR GROUP EARLY ENOUGH IN CASE YOU CANNOT FINALIZE THIS CLASS.**