

**Course:** BIS3063E - Anything-Relationship-Management (xRM)

Lecture and location: according to current lecture plan (see LSF)

<b>Weekly hours:</b>	2 academic hours: (2 x 45 minutes)
<b>ECTS-Credits:</b>	3
<b>Workload:</b>	90 hours, 30 hours within class and 60 hours for self-study and term project
<b>Time:</b>	Tuesday, 15:30-17:00 (W1.5.02)
<b>Begin:</b>	Tuesday, October 06th, 2020
<b>Language:</b>	English; advanced level
<b>Level:</b>	Advanced
<b>Assessment</b>	Exam (60 minutes)
<b>Prerequisites:</b>	Basic knowledge in Computer Science and Information Systems

**Lecturer** Prof. Dr. Peter Weiß

Office: W2.2.25,  
Colloquium: upon appointment  
Please use my booking system to reserve a free timeslot: see <https://www.timify.com/de-de/profile/peterweiss>,

Email: [peter.weiss@hs-pforzheim.de](mailto:peter.weiss@hs-pforzheim.de) (preferred mode of communication)

(Further details: [here](#))

My aim is to ensure that you succeed in your training. Therefore, my aim as lecturer is to interact with students in the classroom and to provide support to their individual learning process. In the case of occurring problems or questions, feel free to contact me, for instance by e-mail. I will answer promptly and if required schedule an appointment.

### Course description:

“The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday’s logic. Yesterday’s logic, which continues to linger, focused on separating the producer from the consumer.” (Peter. F. Drucker).

“Think of your Business as a Service Business” (H. Chesbrough, 2011)

This lecture takes focus on **Anything Relationship Management (xRM)** as the next evolutionary step of CRM (Customer Relationship Management). xRM as a concept describes the holistic management of relations within and between organizations,

human beings, and virtual and physical objects. Customer Relationship Management is a well-established industry that has evolved over the past two decades.

Service-Dominant Logic (S-D Logic) provides a solid theoretical base to explore current developments and to analyse selected business models and value creation constellations.

Major aim of the lecture is to get students acquainted with underlying business logic and conceptualizations of digital business models. Business logics behind **platform-business**, sharing economy, digital services in connection with goods / products and the success of companies such as Alibaba, Amazon, Apple, Google will be discussed and analysed by the students.

From the perspective of S-D Logic (Service-Dominant Logic) all economic actors are **resource integrators**. But what does this mean to act strategically as a resource integrator, and how does this relate to platform-led businesses?

**Thus, Anything-Relationship-Management (xRM) needs to put the relational perspective in focus.**

This relates to networked organisations, actor-to-actor networks and platforms. Complex interactions are nowadays feasible through enabling digital services and technologies. In the lecture, the link and interdependency between various concepts will be illuminated. The students will explore in a self-directed and research-oriented learning approach existing conceptualizations and theoretical explanations. A clear orientation towards practical needs and real life examples will provide guidance for the lecture.

Globalization, increasing automation, the growth of the Internet, and the dynamic componentization of business are driving the reconfiguration of service value networks at a scale and pace never before seen in history. The opportunity to innovate in services, to realize business and societal value from knowledge about service, to research, develop, and deliver new information services and business services, has never been greater. The challenges are both the multidisciplinary nature of service innovation, which combines business, technology, social-organizational, and demand innovation as well as the lack of formal representations of service systems.

**Rethinking customer-firm interactions and related business logics.** Based on Service-Dominant Logic (S-D Logic), the customer is primarily an operant resource. Customers are active participants in relational exchanges and coproduction. In the core, it is about from thinking about the purpose of firm activity as making something (goods or services) to a process of assisting customers in their own value-creation processes. From thinking about value as something produced and sold to thinking about value as something co-created with the customer and other value-creation partners. From thinking of customers as isolated entities to understanding them in the context of their own networks.

**Technology and xRM:** Technology has revolutionized the way that companies perform service, enabling the development of long-term individualized relationships with customers. Advancements in computing have allowed companies to improve both profits and financial accountability by providing high quality, personalized service more easily and affordably than ever before. A computing-driven revolution is under way in the global economy guided by the principle that every business must become a service business in order to survive.

And indeed, many of observable innovative services and digital business models are explainable through taking a service lens on value creation activities. Noticeably, we observe the emergence of service ecosystems (networks of business partners and in general entities), and platform-based businesses. But how can platform-based businesses and related business models be conceptualized and explained? This will be in focus of this lecture.

**S-D Logic and xRM.** The students will get familiar with selected concepts derived from S-D Logic and Service Science literature. Service Science is an upcoming interdisciplinary field integrating insights from academics and practitioners alike. As the world becomes more and more globally interconnected and turbulent, business strategy and operations have to reflect and respond to the challenges of digitization and digital transformation. Against these background scholars such as Peter F. Drucker state that the, “The greatest danger in times of turbulence is not the turbulence; it is to act with yesterday’s logic.” Yesterday’s logic, which continues to linger, focused on separating the producer from the consumer.

This described increasing interconnectedness and the emergence and evolution of interacting (service) systems requires to rethink company’s strategy to review underlying business logic and to make strategic decisions to newly or (re-)position the company in a digital and interconnected economy. Nowadays, we observe the emerging of complex system of systems which rely on service-exchanged-for-services as primary value creation logic. In the digital age, companies are competing through service innovations and new value propositions which question the prevailing business logic and business models.

**Service Innovations are an opportune strategy for companies to compete in the digital age and to transform their business models taking a service perspective on their value creation.**

Digital business models require unique value propositions that incorporate digital technologies. Students will get acquainted with the conceptualization of Service Innovation in the context of the omnipresent fast acting digitization of our daily life, economy and society.

Simply put, CRM is primarily about using information technology to gain a better understanding of customers and deliver a differentiated customer experience across the entire relationship. Think of it as turning your customers inside out, giving businesses a tool to learn what their history is, buying trends are, and interactions have been, allowing you to use this knowledge to plan ahead for your interactions with them. Linking Internet of Services (IoS) and Internet of Things (IoT), xRM provides the management layer for collaborative networks (CNs) and Cyber-Physical-Systems (CPS). The implementation of the xRM concepts are often based on platforms and modular, domain-specific applications building upon these platforms. However, this approach seems in times of digitization and digital transformation limited and not sufficiently broad to capture today’s complexities of interacting service systems and business interactions in our digitized world. The lecture will look into some these challenges and will highlight how anything is connected and capable to participate in interactions.

## Prerequisites

Besides basic knowledge in Computer Science and Information Systems, there are no special pre-requisites for the course beyond basics in management and being interested in technological matters. Do not take the course if you expect to miss more than one class because attendance and active class participation is critical. As well, please consider that course language is English. Please ensure that you are able to read scientific articles in English and follow the lectures. As well, interventions and contributions from students are expected to be made in English.

### Learning outcome:

This course provides a strategic perspective of the challenges and advantages of global manufacturing in multinational and networked companies. In this course the students will learn:

- Introduction and Motivation to Anything-Relationship-Management (xRM)
- Digital Transformation
- Service-Dominant Logic (S-D Logic) and xRM
- Service Science, Service Systems and xRM
- Origins and foundations of CRM (Customer-Relationship-Management)
- Conceptualization relational business approaches
- Business Networks
- Digital Business Models
- Case Studies

Upon completion of the course, the students are able to

- Define and characterize various types of **actor-to-actor networks** relating to presented concepts and vocabulary of the course material.
- Name and recall foundational premises and theories explaining anything relationship management and value chain constellations.
- Define and repeat the concept “anything relationship management” and describe its strategic and operational aspects as well as its objectives.
- Define and classify major constituent properties of **service ecosystems and service systems**.
- Define and characterise product service systems and transfer how they extend the total offering of companies through new value propositions and integrating service components.
- Define and evaluate the design of platform-based strategies in manufacturing industries.
- Know and propose strategic imperatives and opportunities but as well risks viewing value chains through a service-lens.
- Know and apply concepts to concrete examples and conclude how transformations and improved competitive positions are achievable.
- List and discuss major drivers of change and influencing factors for transformations of value chains.
- Understand and argue major drivers of change as well as to characterise potential risks for anything relationship management.

- Name and conceptualize anything relationship management concepts derived from S-D logic principles and mechanisms.

### Course contributions to degree program target

	Learning Outcomes	Contribution
1.1	Students demonstrate key knowledge in Technical Basics.	Introduction to and communication of interdependencies between technical and business requirements (IT-business alignment)
1.2	Students demonstrate key knowledge in Mechanical Engineering.	
1.3	Students demonstrate key knowledge in Business Administration.	Introduction to and communication and cross-organisational interaction and also discussions based on expert knowledge, especially of production management.
1.4	Students demonstrate key knowledge in Economics.	Introduction to and communication of relational management approaches such as customer relationship management, service management (S-D logic, open service innovation), collaborative networks and resource-based management theories and approaches.
1.5	Students demonstrate key knowledge in Mathematics.	
1.6	Students demonstrate key knowledge in Quantitative Methods.	
1.7	Students demonstrate key knowledge in Computer Science.	
2.1	Students demonstrate proficiency in using current computer programs to solve business and technical problems.	
2.2	Students demonstrate the ability to use information systems effectively in real world business settings.	
3.	Students are able to apply analytical and critical thinking skills to complex problems.	Students strengthen and enhance their analytical skills and critical thinking by studying in depth selected cases and related concepts and designs (both technically and business-related). Students will achieve insights to anticipate developments such as future networked business constellations, drawing from principles of interacting platforms and service systems.
4.	Students are able to develop business ethics-based strategies and are able to apply them to typical business decision-making problems.	A win-win approach is necessary in order to produce globally. Ethics-based strategies form the basics of this approach.
5.1	Students demonstrate their ability to express complex issues in writing.	Students demonstrate and improve conceptual skills and their ability to express solutions based on valid concepts and business strategies through the preparation of a small case study.
5.2	Students demonstrate their oral communication skills in presentations and lectures.	Students will demonstrate and improve their presentation skills in small teams and will in this way strengthen their oral communication skills.
6.	Students show that they are able to work successfully in a team by performing practical tasks.	Students demonstrate their ability to work in teams, coordinate and work collaboratively on a given problem or case, and finally, present jointly yielded results in small teams.
7.	Students demonstrate their ability to develop and present complex interdisciplinary solutions by means of an application oriented assignment.	
7.	For specific cases students demonstrate their ability to understand and design cross-functional as well as cross-company business processes in a global context.	Aim is a holistic design and optimization of value chain through shifting focus on relational aspects and related challenges. Nowadays, platform-based business and service-logic is questioning many of

		established design patterns and management thinking.
7.	Students show that they are able to apply their cross-cultural skills in specific situations.	Cross-cultural skills in specific situations are the basis for production management in cross-organisational settings.
7.1	Students are able to explain interdisciplinary terms on the basis of complex problems safely and competently.	
7.2	To solve strategic and operational problems, the students are able to use the necessary methods combined and apply them to the problem.	
7.3	Students demonstrate their ability to develop and present complex interdisciplinary solutions by means of an application oriented assignment.	With the obtained knowledge about the various theories and foundational premises the students gain deeper insight into the future evolution of competition natured by digital technologies and new business logics to anticipate change. The students get acquainted with conflicting goals of organisations and will learn a concept on how to handle these conflicting goals.
7.1	Students demonstrate key knowledge and methodological know-how in international management and engineering.	
7.2	Students demonstrate their ability of analytical and critical reflection and their capacity to work out viable solutions for challenges in international management and engineering.	
7.3	Students show that they are able to apply their international management and engineering competencies in specific situations.	

### Teaching and learning concept

Anything-Relationship-Management is an interactive lecture with discussion based on International Business case studies. To participate fully in class, students are expected to attend classes, read the assigned literature / cases and engage in discussion.

**Performance record regulations:**

The students will realize a term project. Details are outlined during the first sessions in the class room, as well as assessment criteria. Important criteria are presented and will be clarified during the first lectures.

In general, the assessment will be as follows:

Term Project/ Presentation: 50%

Term Paper: 50%

Total: 100%

Assessment is based on a term project which includes a written scientific term paper (elaborated learning papers based on assigned IoE topic) and a presentation of the assigned IoE term project.

Further information will be provided during the first lecture. You will be prepared for the exam during the lectures. Also the style of the exam will be explained during lectures.

**Grading:**

The grading approach will be discussed during the first lecture.

**Course literature:**

- Parker, Geoffrey; van Alstyne, Marshall; Choudary, Sangeet Paul (2016): Platform revolution. How networked markets are transforming the economy - and how to make them work for you. First edition. New York, London: W.W. Norton & Company.
- Weiß, P.; Warg, M.; Zolnowski, A. (2019): Building Systems of Engagement to overcome the challenges of digital transformation. Naples Service Forum 2019, 04-07 June 2019.
- Warg, M.; Zolnowski, A.; Frosch, M.; Weiß, P. (2019): From Product Organization to Platform Organization: Observations of Organizational Development in the Insurance Industry. Naples Service Forum 2019, 04-07 June, 2019.
- Weiß, P.; Bulander, R.; Kölmel, B. (2016): Digital Service Innovation and Smart Technologies: Developing Digital Strategies based on Industry 4.0 and Product Service Systems for the Renewal Energy Sector. September 2016, Conference: RESER Conference Proceedings, Naples, Italy; 2016
- Lusch, R. F., Vargo, S.L. (2014): Service-Dominant Logic: Premises, Perspectives and Possibilities. Cambridge University Press, Boston.

Students are recommended to read this book, as it is referred to its cases, concepts and foundations.

Additional Literature and Recommendations for further self-directed studies and research:

- Chesbrough, H. (2011) 'Bringing Open Innovation to Services', MIT Sloan Management Review, 52(2), pp. 85–90. doi: 10.1177/1094670503257028.
- Chesbrough (2011): Open Service Innovation: Rethinking Your Business to Grow and Compete in a New Era. Jossey-Bass.
- Chesbrough, H. and Spohrer, J. (2006) 'A Research Manifesto for Service Science', Communications of the ACM, 49(7), pp. 35–40. doi: 10.1145/1139922.1139945.
- Chesbrough, H. (2011) 'Open Services Innovation: Rethinking Your Business to Grow and Compete in a New Era', Presentation, p. 37. doi: 10.1017/CBO9781107415324.004.
- Lusch, R. F. and Vargo, S. L. (2008) 'The Service-Dominant Mindset - Goods to Service', Service Science, Management & Engineering, pp. 89–96.
- Spohrer, J. C., Demirkan, H. and Krishna, V. (2011) 'Service and Science', The Science of Service Systems, pp. 325–358. doi: 10.1007/978-1-4419-8270-4.
- Stauss, B., Gouthier, M. and Seidel, W. (2007) 'Satisfaction measurement within the customer relationship life cycle', Advances in Services Innovations, pp. 205–220. doi: 10.1007/978-3-540-29860-1\_11.
- Van Alstyne, Marshall W.; Parker, Geoffrey G.; Choudary, Sangeet Paul (2016): "Pipelines, Platforms, and the New Rules of Strategy". In: Harvard Business Review, April.
- Vargo, S. L. and Lusch, R. F. (2004) 'Evolving to a New Dominant Logic for Marketing', Journal of Marketing, 68(1), pp. 1–17. doi: 10.1509/jmkg.68.1.1.24036.
- Britsch, J., Schacht, S. and Mädche, A. (2012) 'Anything Relationship Management', Wirtschaftsinformatik, 54(2), pp. 83–85. doi: 10.1007/s11576-012-0315-5.
- Maglio, P. P. et al. (2006) 'Service Systems, Service Scientists, Ssme, and', Communications of the ACM, 49(7), pp. 81–85.

Selected excellent case studies (Harvard, MIT) and high-level research papers (articles published in leading research journals) to introduce major concepts following an action-oriented approach. Students will acquire required conceptual basis to strengthen their problem-solving capabilities and independent thinking relevant for their professional career development. This is seen as critical and fundamental for future anything relationship management capabilities in order to lead required transformations in industry and in given real life contexts. Following this approach, students are acquainted with scientific literature and related standards.

Theory and related concepts will be discussed and explained in classroom with reference to real life examples and industrial cases.

### **My self-perception as lecturer**

My aim is to establish a fundamental comprehension for the common topics in Anything relationship management, especially value networks. That should enable you to have an overview referring to planning activities that are across functions and process borders in order to pursue the overall optimum instead of a suboptimal company

optimum. Therefore, I want to encourage you to take a holistic view, which may be a competitive advantage towards business partners and competitors.

My aim is to establish a fundamental comprehension for the common topics in Anything relationship management (xRM), especially **interconnected products, customers and interacting service systems**. As well, I will get students acquainted with new paradigms to view management challenges through the lens of service management and Service-Dominant (S-D) logic. My aim is to enable students to synthesize solution approaches to typical problems and challenges of networked businesses.

My aim is to enable students to follow eclectic research approaches and conceptualize solutions design to improve planning activities that are across functions and process borders in order to pursue the overall optimum instead of a suboptimal company optimum. Therefore, I want to encourage students to take a holistic view and service-led view, which may be a competitive advantage towards business partners and competitors (service makes the difference).

My lectures are research-led not losing focus concerning essential aspects to apply results in real life industrial contexts. Students on bachelor level are encouraged to use scientific literature and to work with state-of-the-art material and concepts from the emerging transdisciplinary service science. In this way, students will strengthen and improve their analytical and conceptual skills.

Service-led thinking and to use service strategies to achieve competitive advantage is a major paradigm of my teaching and research.

### Temporary time schedule (tentative)

<b>Week 1</b>	<b>Introduction and Motivation/ Overview</b> Introduction to course and material Time planning and assignment of tasks (own read and term project)
<b>Week 2</b>	<b>Anything relationship management (1)</b> Introduction and Overview Anything relationship management Open up the value chain and value creation systems
<b>Week 3</b>	<b>Anything relationship management (2)</b> Challenges of managing and orchestrating the complex inter-organizational relationships
<b>Week 4</b>	<b>Anything relationship management (2)</b> Challenges of managing and orchestrating the complex inter-organizational relationships
<b>Week 5</b>	<b>Foundations of Collaborative Networks</b> Platform approaches increase in future with progressing digitization and information intensity
<b>Week 6</b>	<b>Connected Customers and Systems (1)</b>  Platform approaches assist in externalizing of resources and capabilities, and to provide structure for network orchestration
<b>Week 7</b>	<b>Connected Customers and Systems (2)</b> Platform approaches assist in externalizing of resources and capabilities, and to provide structure for network orchestration

<b>Week 8</b>	<b>Service Strategies and S-D logic (1)</b> Connected customers: engagement and experience
<b>Week 9</b>	<b>Service Strategies and S-D logic (2)</b> Connected customers: engagement and experience
<b>Week 10</b>	<b>Service Strategies and S-D logic (3)</b> Connected customers: engagement and experience
<b>Week 11</b>	<b>Service Strategies and S-D logic (4)</b> Connected customers: engagement and experience
<b>Week 12</b>	<b>Service Ecosystems and Service Systems (1)</b> Rationale for use of platform approaches in service-driven manufacturing context, demonstrating how identified logics have special role in value creation in service networks
<b>Week 13</b>	<b>Service Ecosystems and Service Systems (2).</b> Rationale for use of platform approaches in service-driven manufacturing context, demonstrating how identified logics have special role in value creation in service networks
<b>Week 14</b>	<b>Open Service Innovation</b> Customer engagement and experience Why companies should have Open Business Models Rethinking companies' business from a service perspective
<b>Week 15</b>	<b>Platform-based Business Models</b>
<b>Week 16</b>	<b>Capstone Session/ Recap</b>

### Rules for proper academic work

The lecturer appreciates a substantial exchange between the students, because the fellow students may have valuable contributions to the comprehension of occurring problems or questions.

Following the arguments, collaboration and also an autonomous exercise solving or the discussions on upcoming questions within the lectures are fundamental for a clearer understanding of the subject matter.

Especially large class sizes and foreign languages imply a risk of a high noise level, which has a strong negative influence on the work climate, knowledge acquisition and collaboration. Predominantly a high noise level is caused by a few group members. These 'troublemakers' hinder the other ones from being able to concentrate and therefore won't be tolerated and will be ejected from the class.