VU Digital Markets

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Winter Term 2021-22

Objectives

The course offers an economic perspective on digital markets and a variety of digitized institutions. Part I of the course addresses the industrial economics of (digital) trading platforms (i.e., (pricing) strategies, platform competition, and policy implications); Part II discusses the economic analysis of platforms for (social) network formation and the allocation of scarce resources; Part III discusses the behavioral economics of platforms (i.e., consumer behavior and behavioral platform design). Students are expected to deepen their understanding about the functioning of (digital) market platforms and to contribute to a critical assessment of the positive and negative effects of digitization in this context.

Teaching Methods and Exam

The course contains the following different building blocks:

1. *Reader:* Part I of the course builds on a preview of a new textbook by Paul Belleflamme and Martin Peitz on platform markets. The textbook and corresponding slides can be found on OLaT; Part II and Part III bases on a variety of papers and overview articles that can be found in the schedule.

2. *Assignments:* The reader (i.e., the textbook and research articles) and the content of online meetings will be addressed by 3 take-home assignments that can be solved in groups of up to 3 students and are subject to grading. Groups will be allocated in a survey after the first meeting.

3. *Online tests:* The reader (i.e., the textbook and research articles) and the content of online meetings will also be addressed by 6 online tests of 15 min conducted at the beginning of some sessions as outlined in the schedule.

4. *Forum:* Questions on the reader or online meetings can be posted on a course forum in OLAT to foster discussion and provide additional information between sessions.

5. *Online Lectures/Feedback Sessions:* The reading material and feedback to assignments and online tests will be discussed in online sessions (see schedule,access via OLaT'a virtual classroom).

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6. *Grading:* Assignments give a maximum of 30 points, online tests a maximum of 10 points. Up to 20 bonus points (2 per meeting) are given for participation during the meetings. At least 75 points are needed to pass the course.

Staff

The course is given by...

- *Part I and II*: Markus Walzl (markus.walzl@uibk.ac.at), Professor of Economics.

- *Part II*: Felix Holzmeister (felix.holzmeister@uibk.ac.at), Assistant Professor of Behavioral and Experimental Economics and Finance.

Schedule

- *Session 1: Introduction (5-10-2021)*

  The first session will discuss course objectives and organizational issues. Several research questions will be raised and a case study will be discussed to illustrate the centrall objectives of the course. A background reader for the first meeting is:

  - Goldfarb et al. (2015), pp. 1-20.
  - Gluckman (2018), pp. 3-9.
  - O'Neil (2016) – could be a good bedside reader for the next weeks.

  The central source for the first meeting is Belleflamme & Peitz (2020), Ch.1, a key application to illustrate the concepts is the study on online poker platforms by Wimmer et al. (2018).

- *Session 2: Network effects (12-10-2021)*

  In this session we aim for an understanding of the specificities of markets with network effects in contrast to "ordinary" markets.

  - Central reader: Belleflamme & Peitz (2020), Ch. 3.
  - Application: Million-Dollar Homepage

- *Session 3: Platform strategies (19-10-2021)*

  In this session, we investigate how platforms manage network effects and meet the challenge of launching a platform. Moreover, the specificities of price and non-price strategies for platforms will be discussed.

  - Central reader: Belleflamme & Peitz (2020), Ch. 4 and Belleflamme & Neysen (2020).
  - Application: Uber vs Lyft
  - Online Test 1

- *Session 4: Competition Policy and Digital Platforms (9-11-2021)*

  The last session of Part I will address potential policy responses to the strategies of platforms.

  - Central reader: OECD (2018), pp. 9-34.
  - Application: Apple vs Spotify
  - Online Test 2
  - Assignment 1: Due 23-11-2021

- *Session 5: Matching Markets (16-11-2021)*

  One of two central problems of Part II are two-sided matching problems where centralized algorithms make attempts to match agents of different groups or market sided in an efficient, stable, and/or fair way.

  - Central reader: Roth (2008), Abdulcadiroglu and Soenmez (2013)
  - Application: Why Angelina Jolie married Brad Pit (for a while)

- *Session 6: Entry-level Labor Markets (23-11-2021)*

  A central application of algorithms for two-sided matching are entry-level labor markets (e.g., the national matching algorithm for hospitals and doctors in the US).

  - Central reader: Roth and Peransson (1999), Hakimov and Kuebler (2021)
  - Application: National Resident Matching Program

- *Session 7: Discrete Resource Allocation (30-11-2021)*

  The second canonical problem of Part II is the allocation of a scarce resource among a set of agents. In this session multiple algorithms for an efficient, fair, and/or non-manipulable allocation are proposed and analyzed.

  - Central reader: Soenmez and Uenver (2011), Abdulcadiroglu and Soenmez (2013)
  - Application: Allocating housing with existing tenants
  - Online Test 3

- *Session 8: Kidney Exchange (7-12-2021)*

  One of the most important applications of algorithms for discrete resource allocation is the organization of (pairwise or larger) kidney exchange between multiple donor-patient pairs as practiced in the US and frequently proposed for European countries.

  - Central reader: Roth et al. (2014), Soenmez and Uenver (2017)
  - Application: A clearing house for living-donor organs

- *Session 9: School Choice (14-12-2021)*

  The last session of Part II will discuss different mechanisms of centrallly allocating students to schools (e.g., to promote integration and/or equal opportunities).

  - Central reader: Abdulcadiroglu and Soenmez (2013), Hakimov and Kuebler (2021)
  - Application: Controlled school choice and social integration
  - Online Test 4
  - Assignment 2: Due 11-1-2022

- *Session 10: Introduction to Behavioral Economics (11-1-2022)*

  Students are introduced to the field of behavioral economics. In particular, we discuss how new information technologies interact with behavioral decision-making.

  - Ariely (2008) and Kahneman (2002)

- *Session 11: Behavioral Biases and Heuristics (18-1-2022)*

  We discuss several behavioral biases and heuristics, with a focus on behavioral patterns that are of particular relevance in the realms of digitalized environments.

  - Central reader: t.b.a. in Session 6
  - Application: Various practical applications
  - Online test 5

- *Session 12: Choice Architectures and Nudging (25-1-2022)*

  Each and every decision takes place in some particular context — the choice architecture. Based on insights from the behavioral sciences, we discuss how decision environments can be purposefully modified to "nudge" people.

  - Thaler & Sunstein (2008) and Halpern (2015)

- *Session 13: Dark Patterns (1-2-2022)*

  Dark patterns are used by websites and apps to trick users into doing something that they probably did not mean to do. We will discuss ethical issues associated with nudging and illustrate how easily users are tricked in digital choice architectures.

  - Central reader: t.b.a. in Session 8
  - Application: Various practical applications
  - Online Test 6
  - Assignment 3: Due 15-2-2022