



M.Sc. PROGRAM IN ECONOMIC  
AND BUSINESS STRATEGY



UNIVERSITY OF PIRAEUS  
DEPARTMENT OF ECONOMICS

# STRATEGY IN THE NETWORK ECONOMY

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# STRATEGY IN THE NETWORK ECONOMY

## Course Outline

This course initially introduces students to the basic principles of network economics. Its ultimate goal is to provide a sound understanding of the strategic decisions made by firms that adopt the platform business model and create online networks.

The significance of network economics for shaping business strategy is justified by noting that 9 out of 10 most valuable companies in the world operate in network industries. In addition, the top five most valuable firms are all tech giants (Apple, Google-Alphabet, Microsoft, Amazon and Facebook) which adopt the platform business model and its digital strategies in order to remain competitive. Other up-and-coming companies, such as Airbnb and Uber, serve as platforms creating online networks that facilitate digital interactions between people.

The success of these firms is mainly attributed to the managerial decisions made from a network point of view. The building block of such decisions is the strategic analysis of the characteristics that make network goods differ from the conventional ones, namely: (i) network externalities; (ii) complementarity, compatibility and standards; (iii) switching cost and lock-in effects; and (iv) significant economies of scale in production.

## Course Objectives

Upon successful completion of the course, students are expected to be capable of:

- Identifying and analyzing network industries
- Recognizing the reasons that network industries should be examined and analyzed in a specific context
- Evaluating and estimating the probability of success of a new network technology or a new network good

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- Assessing the characteristics of network goods in order to make strategic decisions from a firm and consumer perspective
- Understanding the platform business model and analyzing it as a two-sided market
- Recognizing the differences between traditional and online markets
- Shaping strategic decisions in digital markets

## Textbooks and Reading

### Books

- Shapiro, C., & Varian, H. (1999). *Information Rules: A Strategic Guide to the Network Economy*. Harvard Business School Press.
- Shy, O. (2001). *The Economics of Network Industries*. Cambridge University Press.

### Research Articles

- Economides, N., & Tåg, J. (2012). Network neutrality on the Internet: A two-sided market analysis. *Information Economics and Policy*, 24(2), 91–104.
- Hagiu, A., & Jullien, B. (2007). *Designing a Two-Sided Platform: When To Increase Search Costs?* No 473, IDEI Working Papers from Institut d'Économie Industrielle (IDEI), Toulouse.
- Farrell, J., & Klemperer, P. (2007). Coordination and lock-in: Competition with switching costs and network effects. *Handbook of Industrial Organization*, 3, 1967–2072.
- Jullien, B., & Sand-Zantman, W. (2019). *The Economics of Platforms: A Theory Guide for Competition Policy*.
- Klemperer, P. (1987). The competitiveness of markets with switching costs. *The RAND Journal of Economics*, 18(1), 138-150.
- Rossotto, C. M., Lal Das, P., Ramos, E. G., Miranda, E. C., Badran, M. F., Licetti, M. M., & Murciego, G. M. (2018). *Digital platforms: A literature*

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review and policy implications for development. *Competition and Regulation in Network Industries*, 19(1–2), 93–109.

- Shy, O. (2011). A Short Survey of Network Economics. *Review of Industrial Organization*, 38(2), 119–149.
- Spulber, D. F. (2019). The economics of markets and platforms. *Journal of Economics and Management Strategy*, 28(1), 159–172.

## Grading

The evaluation consists of a final exam (70%) and an assignment (30%). The assignment concerns a teamwork on a case study that will be presented and discussed in the classroom.

## Detailed Schedule

**Week 1:** Introduction to network economics

**Week 2:** Network externalities

**Week 3:** Complementarity, compatibility and standards

**Week 4:** Switching cost and lock-in effects

**Week 5:** Economies of scale in production

**Week 6:** Case study: The telecommunications sector from a network perspective

**Week 7:** Digital and online markets

**Week 8:** Introduction to two-sided markets

**Week 9:** The platform business model

**Week 10:** Net neutrality and platform regulation

**Week 11:** Student presentations

**Week 12:** Final Revision

**Week 13:** Final exam