

Data-driven competitiveness analysis

Attila Chikán and Bence Kiss-Dobronyi
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[Machine translated from Hungarian]

The course presents the situation of Hungarian firms based on a large-scale questionnaire survey conducted this spring by the Corvinus University of Budapest Competitiveness Research Center, covering more than 800 managers from over 200 companies. The course combines theoretical and methodological approaches, with its main objective being to demonstrate how today's increasingly popular data-analysis methods provide new tools for analysts working on corporate strategy and for practitioners shaping strategy in practice.

The course is planned to run over 12 weeks and include a weekend seminar in Lakitelek. It concludes with an assessed report, but we also hope that it will lead to TDK papers and potentially lay the groundwork for academic publications. The up-to-date dataset and the combined theoretical/practical approach offer a rare and valuable opportunity for high-quality TDK papers and thesis work.

Successful participation in the course requires a high level of student engagement. This includes reading materials related to corporate economics and strategy, as well as completing analytical tasks (statistical analysis, data visualization, etc.). Introductory-level statistical knowledge is required; econometric skills are an advantage but not essential. During the course (subject to mutual agreement), Tableau will be used for visual analysis, while Python or R will be used for statistical analysis. Students will be introduced to Tableau during the course, and there will also be a short introductory session on R or Python programming; however, some prior programming experience is recommended.

The course provides an opportunity to apply advanced analytics tools and techniques to a classical economic theory topic—and to learn not only about their potential, but also about their limitations.

Week 1: The concept of corporate competitiveness and approaches to its analysis. Overview of the situation of Hungarian firms.

Week 2: The survey method and primary data processing. Exploratory data analysis with visualization.

Week 3: The data structure of the recently completed survey.

Weeks 4–6: Analysis: statistical and basic econometric methods and their application to the 2019 sample.

Weeks 7–8: Longitudinal analysis (incorporating results from previously conducted, similar questionnaire surveys). Database integration and issues related to time-series analysis.

Weeks 9–10: Data integration: joint analysis of the 2019 competitiveness survey and the NAV financial database (this could be optional, time permitting).

Weeks 11–12: Conclusions on the competitiveness of Hungarian firms and on the usefulness and applicability of data-processing methodologies.