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MARKETING AND DATA SCIENCE GROUP
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B322a Bachelor Thesis Seminar on Marketing

Summer Term 2026

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I. Overview

In this empirical seminar, students work on selected topics in marketing. Current and relevant topics from the marketing mix and consumer behavior will be explored in depth using a methodological approach. To this end, participants will independently apply advanced empirical methods to their own research questions using appropriate datasets.

II. Learning Objectives

The aim of the seminar is to impart in-depth knowledge of the state-of-the-art marketing mix and of empirical research methods. The development and practical application of various empirical research methods in marketing should help students understand the basics of the market research process, from the formulation of the research question to data analysis. Furthermore, students are supported through compulsory workshops that introduce them to academic writing and presentation techniques. To this effect, the seminar seeks to progressively expand participants' theoretical knowledge and skills acquired in these workshops throughout its duration. As part of the seminar, participants will give a short mid-term and an extended final presentation on their respective research topics at the end of the seminar. We also consider active participation on all dates and a lively exchange of information among participants to be essential prerequisites for developing these skills.

III. Prerequisites

An independent processing of the datasets using statistical software (e.g., R or Python) is a fundamental part of the seminar. The empirical analyses in this seminar will typically be conducted using the statistical software R. During the seminar, participants will have access to the licensed platform "DataCamp", which enables self-guided refreshment and practice in programming languages such as R (or Python). However, **they are expected to acquire any additional knowledge they may need independently, i.e., familiarize themselves with the relevant areas of the software and the methods under their supervisors' guidance**. Thus, we strongly recommend that students have prior experience with R (or Python), such as through the B320 Market Research module or a similar course.

IV. Evaluation

Students work in groups on one of the topics listed below, taking advantage of the support offered as a group and working on the analyses together. However, students submit their individual work in their 12-page term paper, for which they are solely responsible. To this end, students specialize in different areas within their group's topic. The presentations as part of the seminar are to be held jointly as a group; i.e., the group gives a coherent, consistent presentation covering the work of its members. Individual performance, rather than group performance, is graded during the presentation and subsequent discussion. The written term paper accounts for approximately 50% of the final grade, while the presentation and active oral participation together account for the other 50%. Withdrawal from the course is possible until the kick-off date. Later withdrawal is only possible in case of illness (with a medical doctor's note). Otherwise, the course will be considered 'failed'.

V. Course Credit

Students can earn 12 ECTS for the successful completion of this course. To obtain course credits, students must attend all sessions (see schedule in section VI), submit the term paper on time (maximum 12 pages of text, including graphics and tables), present the project in the seminar, and engage in active oral participation.

VI. Dates

Monday, April 13, 2026 9:00 s.t – 13:00 s.t.	Kick-off: Topic Assignment Workshop "Academic Working" Video „Introduction to data analysis with R" available	SR E03 (Mohlstr. 36)
Friday, April 17, 2026 9:00 s.t – 13:00 s.t.	Workshop "Presentation Techniques": Learning the basics of presenting scientific work	SR 331 (Mohlstr. 36)
Sunday, May 10, 2026 20:00 s.t.	Upload Research Plan Presentation (of every seminar group) in ILIAS	
Monday, May 11, 2026 9:00 s.t. – 14:00 s.t.	Research Plan Presentation	FSR (Nauklerstr. 47)
Monday, June 15, 2026 By noon (12:00) s.t.	Submission of bachelor's thesis *Drop your bachelor thesis in the cardboard box in front of the office 110 at Nauklerstr. 47 or send it by mail (stamp date is relevant) + upload in ILIAS*	
Monday, June 29, 2026	Feedback Session – meetings will be coordinated individually	
Sunday, July 12, 2026 20:00 s.t.	Upload of presentation (of every seminar group) in ILIAS	
Monday, July 13, 2026 9:00 s.t. – 18:00 s.t.	All day block seminar	SR 236 (Neue Aula)

VII. Topics

The final allocation of topics and groups will be announced at the kick-off event. Each group will be assigned a single overarching topic, which will subsequently be subdivided into individual subtopics. Each student must submit an individual paper based on their subtopic.

Topic 1	**Price Elasticity Analysis** One of the most important metrics in pricing strategy is price elasticity – the percentage change in demand when the price of a product changes by 1%. Understanding what drives differences in estimated price elasticity is crucial for firms aiming to make informed pricing decisions. These differences can arise from substantive factors, such as variations across product categories, store formats, or time periods. At the same time, methodological choices, including data cleaning steps, model selection, or the inclusion of specific control variables, can also influence the results. This thesis explores both types of factors to better understand how and why estimated price elasticities vary – shedding light on the interplay between real-world pricing behavior and the analytical methods used to study it.
Literature	Hoch, S. J., Kim, B.-D., Montgomery, A. L., & Rossi, P. E. (1995). Determinants of Store-Level Price Elasticity. *Journal of Marketing Research*, 32(1), 17 – 29. https://doi.org/10.2307/3152107 Bijmolt, T. H. A., Van Heerde, H. J., & Pieters, R. G. M. (2005). New Empirical Generalizations on the Determinants of Price Elasticity. *Journal of Marketing Research*, *42*(2), 141-156. https://doi.org/10.1509/jmkr.42.2.141.62296
Data	Dominick's Finer Food, and further complementary datasets
Required skills	Advanced programming skills with R; advanced methodological knowledge (e.g., Multivariate regression analyses with fixed effects, log-log models)

Topic 2	**Promotional Effectiveness**
	A central instrument in marketing is the use of (price) promotions. Developing a comprehensive understanding of the consequences that promotions (e.g., price reductions, coupons) have on purchasing behaviour and demand is, however, complex. Therefore, within the scope of this topic, selected aspects of measuring promotional effectiveness will be examined using the well-known "Dominick's Finer Food" dataset. A particular focus will be placed on dynamic effects as well as on determining promotional versus non-promotional price elasticity. **Note:** Within the scope of this topic, it is also possible to engage with methods of machine learning. In that case, the substantive focus would shift more toward **prediction** using price-promotion variables.
Literature	Bijmolt, T. H. A., Van Heerde, H. J., & Pieters, R. G. M. (2005). New Empirical Generalizations on the Determinants of Price Elasticity. Journal of Marketing Research (JMR), 42(2), 141-156. Fok, D., Horváth, C., Paap, R., & Franses, P. H. (2006). A Hierarchical Bayes Error Correction Model to Explain Dynamic Effects of Price Changes. Journal of Marketing Research (JMR), 43(3), 443–461. Hoch, S. J., Kim, B.-D., Montgomery, A. L., & Rossi, P. E. (1995). Determinants of Store-Level Price Elasticity. Journal of Marketing Research, 32(1), 17-29. van Heerde, H. J., Leeflang, P. S. H., & Wittink, D. R. (2000). The Estimation of Pre- and Postpromotion Dips with Store-Level Scanner Data. Journal of Marketing Research, 37(3), 383–395.
Data	Dominick's Finer Food, and further complementary datasets
Required skills	Advanced programming skills with R; advanced methodological knowledge (e.g., Multivariate regression analyses with fixed effects, log- log models)

Topic 3	**The computational reproducibility of marketing research**
	Many influential articles in leading marketing and consumer research journals present central empirical claims based on sophisticated statistical analyses. However, the robustness of these claims often depends on specific analytic choices, raising questions about their generalizability and replicability. In this thesis, one paper will be selected from a curated list of 12 studies. The goal will be to (1) obtain the original data, (2) identify the paper's central result, (3) reproduce the finding using the statistical procedures described by the authors, and (4) conduct a *specification curve analysis* to evaluate the robustness of the effect to different reasonable analytical specifications. A particular focus will be on identifying boundary conditions: under which model specifications, variable operationalizations, or sample restrictions the original effect is likely to hold, and under which it may weaken or disappear. This approach will provide both a deeper understanding of the chosen study and broader insights into methodological rigor in marketing and consumer research.
Literature	Simonsohn, U., Simmons, J. P., & Nelson, L. D. (2020). Specification curve analysis. *Nature Human Behaviour*, *4*(11), 1208–1214. https://doi.org/10.1038/s41562-020-0912-z Deer, L., Adler, S. J., Datta, H., Mizik, N., & Sarstedt, M. (2025). Toward open science in marketing research. *International Journal of Research in Marketing*, *42*(1), 212–233. https://doi.org/10.1016/j.ijresmar.2024.12.005
Data	Original data of the selected paper
Required skills	Advanced programming skills, applied regression analysis, ANOVA, computational reproducibility

VIII. Optional Preparatory Readings: Methods and Programming

- Field, Andy (2012). "Discovering Statistics Using R". Sage Publications Ltd.
- Grolemund, G., & Wickham, H. "R for Data Science" (2023), available here: https://r4ds.had.co.nz/
- Wooldridge, J. M. (2002). "Econometric Analysis of Cross Section and Panel Data". Cambridge, MA: MIT Press.