

DANIEL M. RINGEL

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EDUCATIONAL BACKGROUND

Ph.D. in Marketing, Goethe-University, Frankfurt, Germany, March 2017

Dissertation: Creating Insights in Large Markets

MBA, Goethe Business School in Alliance with Duke University, Frankfurt, Germany, June 2011

BA Business and Economics, Baden-Württemberg Cooperative State University, Germany, September 2000

PROFESSIONAL EXPERIENCE

Assistant Professor of Marketing, UNC Kenan-Flagler Business School, June 2017 – present

Director and Management Consultant, DMRcon, Germany, 2004 – 2011

Founder and Managing Director: Ringel Modellbau (RC Aircraft, LiPo Batteries), Germany, China, 2005 – 2011

Management Consultant, The Monitor Group, Switzerland, South Africa, Germany, 2000 – 2003

AWARDS, HONORS, GRANTS

Weatherspoon Award for Excellence in MBA Teaching (Data Science & AI in Business), Chapel Hill, USA

MBA All-Star Instructor, Kenan-Flagler Business School (2021, 2022, 2023, 2024), Chapel Hill, USA

Winner of Wolfgang-Ritter-Prize (2019), Bremen, Germany

Winner of Retail Science Award (2018) of the EHI Retail Institute, Düsseldorf, Germany

Dissertation Award German Brand Association (2018), Berlin, Germany

Winner German Science Award (2017) of the German Marketing Association, Frankfurt, Germany

Winner of ISMS Doctoral Dissertation Proposal Competition (2014), Baltimore, USA

Fellow of the ISMS Early Career Scholars Camp Program (2022), Durham, USA

Fellow of the Marketing EDGE Professors Institute (2022), Dallas, USA

Fellow of the Marketing Strategy Consortium (2019), Bloomington, USA

Fellow of the Marketing EDGE Professors Institute (2018), Dallas, USA

UNC Junior Faculty Development Award 2020

Research Grant (2016) for the project “Creating Insights in Large Markets” from the German National Science Foundation (DFG) as collaborator of Bernd Skiera

RESEARCH

My research is situated at the intersection of marketing and artificial intelligence. My vision is to advance data-driven marketing through artificial intelligence (AI) machine learning (ML). By integrating marketing theory with real-world AI applications, I aim to develop new frameworks and tools that contribute to academic discourse and provide tangible benefits to practitioners. I believe that significant value emerges from collaborating with both industry partners and academic peers across different fields. By fostering close ties to marketing practice, I identify practically relevant research questions. My research portfolio is characterized by methods and frameworks that utilize AI and ML to create insights into complex market dynamics and consumer behaviors from vast unstructured datasets. When no suitable method is available, I advance and/or develop new methods.

PUBLISHED REFEREED JOURNAL ARTICLES AND CONFERENCE PROCEEDINGS

Ringel, Daniel M. (2023), "Multimarket Membership Mapping". *Journal of Marketing Research* 60(2), 237-262. <https://doi.org/10.1177/00222437221110460> website: www.mapXP.app

Inspired by large language models (LLMs), multimarket membership mapping introduces context awareness to dimensionality reduction and map projection methods. Embraces the notion that objects (e.g., products) can play different competitive roles in a joint space and maps them accordingly such that these roles become visible to analysts.

Matthe, Maximilian, **Daniel M. Ringel** and Bernd Skiera (2023), "Mapping Market Structure Evolution". *Marketing Science* 42(3), 589-613. <https://doi.org/10.1287/mksc.2022.1385> website: www.EvoMap.io

Identifies the evolution of complex relationship structures among objects. Provides a forward-looking perspective on market structure and traces firms' positional strategies over time. Introduces a new dimensionality reduction methodology for longitudinal data that separates noise from signal and visualizes directly interpretable object trajectories.

France, Stephen L., **Daniel M. Ringel** and Wenjun Zhou (2022), "Data Analytics Methods for Marketing Strategy Researchers". *Celebrating the Past and Future of Marketing and Discovery with Social Impact, Proceedings of the 2021 AMS Virtual Annual Conference and World Marketing Congress*. https://dx.doi.org/10.1007/978-3-030-95346-1_102

Opportunities for adopting and adapting machine learning methods for market analysis to identify and reveal meaningful patterns and structures in large and unstructured data assets. Leverages deep learning and product embeddings to capture latent relationship structures.

Ringel, Daniel M., and Bernd Skiera (2016), "Visualizing Asymmetric Competition among more than 1,000 Products using Big Search Data." *Marketing Science* 35 (3), 511-534. <https://doi.org/10.1287/mksc.2015.0950>

Novel approach to identify competitive asymmetry and market structure from consumers' searches at price comparison sites. Introduces new model that connects unsupervised learning and dimensionality reduction to accurately visualize local and global network structures in a joint map.

Ringel, Daniel M., and Bernd Skiera (2014), "Understanding Competition Using Big Consumer Search Data". *Proceedings of the 2014 47th Hawaii International Conference on System Sciences*. <https://dx.doi.org/10.1109/HICSS.2014.388>

Extracts competitive relationships from vast amounts of consumer search data using unsupervised machine learning and dimensionality reduction to inform positioning strategies.

WORKING PAPERS

Ringel, Daniel M., "Creating Synthetic Specialists with Generative Artificial Intelligence."
<https://dx.doi.org/10.2139/ssrn.4542949>

Approximates proprietary generative AI models with open-source LLMs to create scalable, inexpensive, and fully independent "Synthetic Specialists" for complex classification tasks across functions, fields, and industries.

Ringel, Daniel M. and Sebastian Gabel, "The Market Basket Transformer: A New Foundation Model for Retail"
<https://dx.doi.org/10.2139/ssrn.4335141>

Transformers, the foundation of generative AI, offer immense potential for market basket analysis but suffer from bias against new, niche, and long-tail products due to their data hunger. This work develops, explains, and validates mitigation strategies, paving the way for transformers' application in retailing.

Maholtra, Pankhuri, **Daniel M. Ringel**, Kerin Zhao, and Yaxin Cui, "Distilling Brand Alliance Opportunities from Information Networks." <https://dx.doi.org/10.2139/ssrn.4822029>

Identifies, validates, qualifies, and explores brand alliance opportunities from unstructured data in large social networks using deep learning and weighted exponential random graph models. Empirical analysis reveals that 92% of opportunities suggested by the information network are either incompatible or lack substance.

Matthe, Maximilian, **Daniel M. Ringel**, and Bernd Skiera, "In Search of Signals: Inferring Consumer Characteristics from Search Queries."

Shows that search queries carry latent signals related to consumer characteristics which can be used for minimally obtrusive targeting of consumers in three contexts: weight loss, online dating, and private investing. A collaboration with a major retail bank demonstrates significant lift in customer acquisition and revenue of target audience through associated queries.

Matthe, Maximilian, **Daniel M. Ringel**, and Orian Mahlow, "Mapping Positioning Dynamics in Political Communication."

Reveals the positioning strategies of political actors based on their public communication using transformer models and market structure analysis techniques. Relates changes in party and candidate positions to vote outcome.

BOOK CHAPTERS

Ringel, Daniel M. and Bernd Skiera (2018) "Chapter 19. Visualizing asymmetric competitive market structure in large markets." *Handbook of Marketing Analytics: Methods and Applications in Marketing Management, Public Policy, and Litigation Support*, Mizik N, Hanssens DM, eds., Edward Elgar Publishing.
<https://doi.org/10.4337/9781784716752>

Ringel, Daniel M. and Bernd Skiera (2025) "Chapter 19. Visualizing competitive market structure." *Forthcoming in: Handbook of Marketing Analytics: Methods and Applications in Marketing Management, Public Policy, and Litigation Support*, 2nd edition, Mizik N, Hanssens DM, eds., Edward Elgar Publishing.

PRESENTATIONS (SINCE 2020)

"Creating Synthetic Specialists with Generative AI" (October 15, 2024), Goethe University Frankfurt, Germany.

"Anonymous Shoppers: Associative Learning for Scalable In-Store Purchase Predictions" (June 3, 2024), Marketing Dynamics Conference, Santorini, Greece.

"Distilling Brand Alliance Opportunities from Information Networks." (May 31, 2024), Special Session on Influencer Marketing at the 53th European Marketing Academy Conference, Bucharest, Romania.

"Anonymous Shoppers: Associative Learning for Scalable In-Store Purchase Predictions." (May 4, 2024), Symposium on Artificial Intelligence in Marketing, Madison, WI, USA.

“AI and Business.” (April 14-16, 2024), UNC Kenan-Flagler Leaders’ Summit, Palm Beach, Florida.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (November 15, 2023), eFinance Lab – The Data Science Institute Conference on “Opportunities and Challenges of Generative AI”, Frankfurt, Germany.

“Artificial Intelligence: Quo Vadis?” eFinance Lab Board (November 15, 2023), Frankfurt, Germany.

“Anonymous Shoppers: Zero-Shot Associative Learning for Scalable Purchase Predictions.” (November 14, 2023), Goethe University, Frankfurt, Germany.

“Keynote and Workshop: Generative Artificial Intelligence in Retail Banking.” (October 27, 2023), Union Investment Annual Meet BW, Stuttgart, Germany.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (October 26, 2023), University of Cologne, Germany.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (October 11, 2023), Darden School of Business, University of Virginia, Charlottesville, USA.

“The Role of Generative Artificial Intelligence in Business and Education.” (October 6, 2023), UNC Kenan-Flagler Business School Annual Parent’s Council Meet, Chapel Hill, USA.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (September 29, 2023), WAB Seminar Series, University of Wisconsin, Madison, USA.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (September 8, 2023), Wharton Business & Generative AI Conference, San Francisco, USA.

“Creating Synthetic Experts with Generative Artificial Intelligence.” (July 27, 2023), Carolina Data Science Now “Summer of AI”, Chapel Hill, USA.

“Market Basket Analysis with Context-Aware Product Embeddings.” (September 27, 2022), SALTY Academic Conference at WHU, Düsseldorf, Germany.

“Keynote: The Future of AI in Banking.” (May 23, 2022), Union Investment Annual Meet, Frankfurt, Germany.

“Special Session: Data Analytics Methods for Marketing Strategy Researchers” *with Stephen France and Wenjun Zhou* (June 3, 2021), 2021 Academy of Marketing Science Virtual Conference.

“Mining Experiences from User-Generated Content (UGC): The Customer Experience Score.” (June 12, 2020), Marketing Science Virtual Conference 2020.

“Mining Customer Experience (CX) from User-Generated Content (UGC)” (March 11, 2020), Humboldt University of Berlin, Berlin, Germany.

TEACHING

University of North Carolina at Chapel Hill: Kenan-Flagler Business School, Department of Computer Science, School of Data Science and Society

MBA742 Data Science and Artificial Intelligence in Business
Proposed, developed, and launched course. A favorite course of MBAs at Poets & Quants 2024
<https://poetsandquants.com/2024/09/13/the-favorite-courses-of-mbas-2/2/>
 Spring 2021, 2022, 2023, 2024. 25

BUSI 488 and COMP 488 Data Science in the Business World
Proposed, developed, and launched courses for Kenan-Flagler Business School, UNC Department of Computer Science, and UNC School of Data Science and Society.
 Spring 2020, 2021, 2022, 2023, 2024

BUSI 406 Principles of Marketing
 Fall 2017, 2018

Member of the NVIDIA Deep Learning Institute Teaching Kit Program (since 2024)
Member of the DataCamp Classrooms Program (since 2020)

SERVICE (2024)

American Marketing Association AI Special Interests Group: Experts Corner (October 2024)

Transformer Models in Marketing (online video seminar – www.aisig-ama.org/expert-corner).

Judge at Carolina Data Challenge Hackathon (September 2024)

UNC Computer Science Department, Chapel Hill, North Carolina.

Keynote Speaker on the Age of AI (May 2024)

Reynolda Equity Partners Leadership Summit, Winston-Salem, North Carolina.

Panelist Business Analytics Roundtable (April 2024)

NC State Poole College of Management, Raleigh, North Carolina.

Panelist on the Current State of German American Business Relations in HealthTech (April 2024)

Carolina's German Honors Society, UNC Chapel Hill, North Carolina.

Speaker on "The Emerging Role of AI in Business." (April 2024)

Kenan-Flagler Leaders' Summit, Palm Beach, Florida.

Panelist AI at Wharton on "AI and Innovation" (March 2024)

Webinar Wharton School, University of Pennsylvania.

Academic Co-Director Humphry Fellowship Workshop for Generative AI (March 2024)

UNC School of Data Science and Society | UNC Global | U.S. Department of State.

Referee

Marketing Science, Management Science, Journal of Marketing Research, Journal of Marketing, Journal of Interactive Marketing, Journal of Retailing

DISSEMINATION OF KNOWLEDGE

My professional efforts are directed towards extending the impact of my work by engaging a wide audience and facilitating their comprehension and application of my findings. I seek interdisciplinary collaborations, particularly with computer scientists. I actively share my knowledge across disciplines at UNC Chapel Hill. For example, I was involved with UNC's Computer Science Department and UNC's new School of Data Science and Society as speaker, judge, and academic co-director for the Humphrey Fellowship generative AI workshop 2024. Because transparency and inclusivity is important to me, I make data and code readily available, exemplified through contributions such as DRMABS ([supporting materials](#)). I am also focused on fostering interaction and accessibility through the development of dynamic tools that enable exploration of data and results, examples of which include [mapxp.app](#) and [evomap.io](#). My commitment extends to providing comprehensive tutorials and supporting materials for my work. My latest project on this front is [synthetic-experts.ai](#). I maintain an active involvement in industry dialogues by offering keynotes and workshops on emerging AI technologies. For example, I delivered keynotes on the role of AI in retail banking and headed workshops on the potential of generative AI for business in 2022, 2023, and 2024. My personal AI Agent called *Wagner* (www.ringel.AI) not only showcases the potential of generative AI, but also enables a broad audience to interact with my research 24/7 in multiple languages.

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