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The MIT Marketing Group

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The MIT Marketing Group

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1 Rigor and Relevance

Mens et Manus, the mind and the hand “reflects the educational ideals of MIT’s founders who were promoting, above all, education for practical application.”¹ In marketing, we often translate the motto as *rigor and relevance*. The dual focus is important.

MIT, the MIT Sloan School, and the Marketing Group at MIT share the ideals that our research should use the best state-of-the-art methods to the highest degree of rigor to solve problems that matter. We are proud that our research has changed and influenced theory, that our research has addressed important and relevant topics, and that our research has been adopted by industry.

Our group was founded by John D.C. Little, who developed one of the foundational laws of queuing theory (Little’s Law), who established guidelines for marketing models, and who pioneered UPC analysis. The group was strengthened by Glen Urban and Al Silk whose “Assessor” paper founded the laboratory-test-market industry while winning *two* long-term contribution awards (O’Dell) at the *Journal of Marketing Research*. For over fifty years, continuing today, the marketing group at MIT Sloan has published top-journal papers that address both theory and practical relevant problems. Contemporary examples include research on:

- Misinformation and social media that is getting tested and implemented by technology companies
- Preference learning to improve demand forecasting with A/B experiments
- Machine learning to bring marketing ideas to recommendation systems, to identify the voice of the customer, to improve aesthetics, and to help firms manage returns

- Restrictions on advertising and how they impact consumer search

The MIT faculty and PhD students choose big problems and address them using methods that apply to the chosen problems and more broadly. Examples include:

- Peer effects, contagion, and interventions in networks (often via digital field experiments)
- Experimental design and quasi-experimental design combined with statistical machine learning for causal inference
- Markov states and reinforcement learning to choose the best dynamic marketing policies
- Theoretical models of firms’ decision to build their own in-house advertising agencies
- Information drawn from big data on text, images, and video

2 A Respect for all Viewpoints and Methods

The early years of the MIT Marketing Group focused on marketing engineering—tools, methods, and applications to solve industry problems. But we recognized the need to expand our focus. We were early into formal models and brought faculty on board with expertise in econometrics, experimental design, natural experiments, and social media analytics. In recent years, we built a strong behavioral group to address issues such as:

- The cognitive computations behind both rational and irrational behaviors
- A “Bayesian truth serum” and optimal aggregation of crowd sourced judgments
- Research on improbable, typically non-verifiable risks
- Large-scale field experiments on social media platforms to test interventions aimed at reducing the spread of misinformation

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¹ <https://mitadmissions.org/help/faq/motto-mens-et-manus/>

Because we are a small close knit group, our faculty members and PhD students are encouraged to undertake research that draws on many areas and often cuts across areas. Our behavioral, quantitative, and econ-oriented faculty are well-integrated and publish together. As befits the MIT tradition, the faculty and PhD students adapt to learn, apply, and extend new methods as they are developed including Bayesian methods, structural models, machine learning, reinforcement learning, and causal inference. The MIT Marketing Group resists being pigeon-holed but rather learns and applies the best methods to solve the most relevant problems.

3 Fully Integrated with the University

We are a group not a department. Marketing is part of the Management Science Area, which includes operations research, statistics, operations management, information technology, and system dynamics. We sit in the same suite as the applied economics group. The behavioral and policy science area sits one floor down connected by a “social stairway.” Officially, the entire MIT Sloan School is considered by MIT to be one department.

Why does this matter? It matters because research topics and research methods are not restricted to those traditionally defined as marketing. It means that the faculty and PhD students are encouraged to learn a variety of perspectives and work with students and faculty from a variety of disciplines. It means that crossing boundaries and interdisciplinary research is encouraged and facilitated.

For example, when our faculty and PhD students study the implications of information disseminated on social media, they collaborate with political scientists. (And by the way, the political science department is right next door, connected by an indoor bridge.) When our students seek to apply cutting-edge machine learning methods to marketing problems, they learn from and bounce ideas off faculty in Electrical Engineering and Computer Science — some of the best in the world at machine learning. Faculty and students are encouraged to participate in seminars with economics faculty, with the operations research faculty, and

with the behavioral and policy science faculty. There are basically no limits on the intellectual resources available to faculty and students who seek them out.

4 PhD Program

The number of PhD students in our group is slightly more than the number of marketing faculty, but, when considered with all the faculty resources at MIT and MIT Sloan, the ratio is such that we provide very personalized attention. Students select their own advisors and establish a custom program to study the methods necessary for rigorous and relevant research. While much of the instruction is within the MIT Sloan School of Management, students are encouraged to take any course at MIT (or cross register at Harvard).

We believe in entrepreneurial learning. While the faculty might suggest research topics, the students are encouraged to explore new topics and learn new methods. Dissertations (we call them theses) often push well beyond a faculty member’s interests or expertise. As a result, our placements (and ultimately success at earning tenure) have been excellent. Our students have won dissertation awards from all of the major professional societies and our faculty and students are consistently nominated for and win best-paper and long-term interest recognition. We, and MIT in general, take pride in teaching our students to think independently.

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