

Marketing Attribution: Driving Smarter Media Investments



Marketing Attribution was founded by some of the most experienced veterans of the marketing measurement industry. Their highly automated analytical software uses cloud-based statistical analysis of large marketing datasets to measure the incremental sales from media and marketing investments and allocate marketing spend to the most efficient investments.

Location: Global

Industry: Advertising Services

Use Cases: Marketing Mix Modeling

Website: marketingattribution.com

Results

- Media ROI increased by 13% annually
- Digital media increased from 44% to 71%

The team at Marketing Attribution, a boutique analytics firm specializing in marketing mix modeling (MMM) and optimization, has been helping major advertisers unlock the full value of their media spend for decades. At the heart of their work lies a critical question: How do you allocate a billion-dollar marketing budget across dozens of brands, markets, and media channels — while maximizing return on investment? For one of Marketing Attribution's clients, a global consumer health company, this was more than just a question. It was a strategic imperative.

With a portfolio spanning 40+ brands across 160+ countries, this advertiser invests more than \$1.4 billion annually in global advertising. In 2019, the company set out to improve the effectiveness of this investment using data-driven marketing science. To support this transformation, the company turned to Marketing Attribution, which in turn relied on Gurobi's mathematical optimization solver to deliver the advanced analytics and rapid computation needed for success.

Speed, Scalability, and Trust: Why Gurobi Was the Right Fit

According to Ross Link, founder of Marketing Attribution, "We've been doing optimization for decades, and Gurobi is simply the fastest and most reliable solver we've tested. We use it on every project."

With Gurobi, Marketing Attribution builds customized optimization engines that allow clients to go beyond historical measurement and actively simulate and optimize future media plans. Gurobi's performance was especially critical in solving this global optimization challenge — one that included 150 brand-country combinations, 30 media channels, and weekly planning over a 52-week horizon. The problem involved over 230,000 nonlinear response curves, including approximately 78,000 hard-to-solve S-curves.

Solving the "Impossible" with Advanced Techniques and Gurobi

To tackle this massive and complex problem, the team used a decomposition strategy and collaborated with Stanford



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professor Dr. Madeleine Udell to implement a parallelized version of her S-curve optimization algorithm. While Udell’s original academic prototype provided a foundation, it was Marketing Attribution’s development team including SVP of Analytics Development Yue Xiao and SVP of Data Engineering Liam Lundy, who tuned and parallelized the code, transforming it into a production-grade engine capable of solving the full-scale problem in under two minutes.

“The global optimization problem we solved for this client is one of the most innovative things we’ve ever done,” said Link. “And we couldn’t have done it without Gurobi.” As a result of this work and the models that feed it, the client has realized a 13% annual improvement in media ROI since 2019 and shifted

its media mix significantly — from 44% digital in 2019 to 71% in 2022. The optimization system is updated quarterly and continues to serve as a vital decision tool across the organization.

Beyond Media: Expanding Optimization to Pricing and Promotion

In addition to media optimization, Marketing Attribution also uses Gurobi for price and promotion optimization projects, supporting clients in CPG, financial services, and e-commerce. Gurobi’s flexibility and diagnostic tools, such as its Irreducible Infeasible Set (IIS) functionality, help the Marketing Attribution team quickly identify and resolve infeasibilities that can stall other solvers.

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Xiao added, “Gurobi is very easy to use. There’s not a steep learning curve. The documentation is clear, and when I’ve had questions, the support team has been extremely knowledgeable and responsive.”

Ultimately, Gurobi enables Marketing Attribution to do what they do best: help clients make smarter, faster, and more profitable decisions. As AI and analytics continue to reshape marketing science, optimization has emerged as a critical capability. And with Gurobi, Marketing Attribution is leading the way.



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- Free model tuning services
- Free access to our world-class technical guidance and support

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