



TAUBER INSTITUTE
FOR GLOBAL OPERATIONS
UNIVERSITY OF MICHIGAN

Improving Forecast Accuracy for new Product Launches



One of the world's largest food companies, General Mills, Inc. (GMI) manufactures a wide variety of packaged consumer foods, generating revenues of \$16.6 billion USD in fiscal year 2016. To differentiate itself, innovation, in the form of 150+ annual new product launches, is critical to the organization's continued success. As the uniqueness of new products increases, the ability to accurately forecast customer demand decreases, leading to inaccurate forecasts and the erosion of profit margin. Consequently, there is an opportunity to increase margin by improving forecasts for new products.

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To address this opportunity, the Tauber team, using business analytics, developed a machine learning solution to better forecast new product demand. First, the team developed an algorithm to select the most appropriate like products based on product characteristics. In addition, prediction algorithms were developed to directly forecast demand without using like product selection. To help ensure the realization of expected cost savings, the Tauber team made recommendations for wide-scale implementation of the new process throughout the company.

The new process was tested as a pilot study on historical launches and reduced forecast error by 80%. This translated to ~50% increase in net margin for the study. The team then implemented the new process for a live launch. Initial results were consistent with expectations derived from the pilot study. Implementation within the operating unit of the historical launches is estimated to produce short term savings of 12% of new product revenue.

Long-term savings achieved through implementation across all operating units is estimated at between 10% and 18% of annual new product margin, depending on the product category.

"In 2016, General Mills, Inc. received the Longevity Award for 5 years of team project sponsorship with the Tauber Institute for Global Operations."

—Diana Crossley, Managing Director



Joline Uichanco
Ross School of Business



David Kaufman
College of Engineering



L to R: Beth Blaylock (Supply Chain Initiative Leader), Carol German (Program Manager, HMM & SC Strategy), Erik Knapp (EGL BSE/MSE-IOE'17), Christine Enland (Sr. Manager, Technology & Analytics), Tania Martinez Garcia (MSCM '17), Dave Engler (Director, HMM & Supply Chain Strategy), Joline Uichanco (Assistant Professor of Technology and Operations, Ross School of Business). Photographer: P. Dattilo

General Mills Project Team

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About Tauber Team Projects

Each two to three person Tauber Team consists of graduate Engineering, MBA, and/or MSCM students. Along with receiving high-level corporate support from the sponsoring company, each team is advised by a College of Engineering and a Ross School of Business faculty member and overseen by a Tauber Institute Co-Director. The projects begin on-site in May and continue for 14 weeks. Students present the results of their projects and compete for over \$40,000 in scholarships at the U-M Tauber Institute's annual **Spotlight!** event, held each September in Ann Arbor, Michigan. **Spotlight!** provides outstanding opportunities for students and corporate partners to establish relationships while exploring innovations in operations and manufacturing.

The 2016 Tauber Team Projects resulted in \$460 million in savings according to sponsoring company calculations, an average of \$14.4 million per project over three years.

To learn more about the Tauber Institute for Global Operations, visit tauber.umich.edu or contact us at 734-647-1333.



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