PEPSICO
REFINING SUPPLY CHAIN NETWORK STRATEGY FOR AQUAFINA

Student Team:
Maaz Khalid – MBA & MSE Industrial and Operations Engineering
Joshua Thariath – EGL (BSE & MSE Industrial and Operations Engineering)

Project Sponsors:
Erika Lewis – Senior Director NAB Supply Chain Strategy
Michael Reynolds – Senior Manager NAB Supply Chain Network Strategy
Jeffrey Sanko – Senior Director PBC Supply Chain Strategy

Faculty Advisors:
Xiuli Chao – College of Engineering
Sanjeev Kumar – Ross School of Business

PepsiCo is a consumer food and beverages company which generated approximately $63 billion in net revenue in 2016, driven by a portfolio that includes Frito-Lay, Gatorade, Pepsi-Cola, Quaker, and Tropicana. Its North American Beverages (NAB) division, based in New York, handles production, storage, and distribution of its wide and complex portfolio of beverages ranging from carbonated drinks to bottled water. Within NAB, the Supply Chain Network Strategy team plays the crucial first role in shaping production, warehousing, and sourcing strategies, using a network optimization tool that pulls in input from most stakeholders in the supply chain.

PepsiCo's flagship bottled water brand, Aquafina, constitutes nearly 10% of total PepsiCo demand and drives a large portion of the company's supply chain complexity and cost. It is a highly seasonal product that, coupled with demand shocks like hurricane warnings or price markdowns, creates immense strain on the company's existing warehousing and production networks. Aquafina inventory strategy was founded on static, long-held assumptions such as flat rates for critical costs; the company therefore recognized the need for refinement of its strategy and more specifically, its network modeling tool, to facilitate better decision-making. The Tauber team was tasked with analyzing this complex tool to identify and prioritize areas of opportunity along with formulating recommendations to capitalize on these opportunities.

The team first used data from the Transport, Warehousing, and Finance teams to build a sophisticated cost model which included accurate warehousing costs for storing and handling Aquafina. The team then updated the network modeling tool with these refined costs before developing and testing alternate inventory management strategies. Finally, a detailed storage capacity gap analysis was conducted to identify a more cost-effective warehousing strategy for Aquafina.

Based on this work, the team recommended revised costing inputs, alternate safety stock policies, and changes to PepsiCo's Aquafina warehousing strategy. These changes would not only unlock a savings potential of up to $600k for 2018, but also significantly improve PepsiCo's future decision-making ability.