AM GENERAL
EVALUATING COST FROM PROTOTYPE TO PRODUCTION

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AM General is a major player in the specialized vehicle industry, for both the military and commercial sectors. While the company is best known for the HMMWV "Humvee" used by military allies around the world, AM General serves as both an original equipment manufacturer (OEM) and a contract manufacturer for companies such as General Motors and Mercedes-Benz. The company's Engineering and Product Development Center in Livonia, MI is partnered to build and deliver a new prototype vehicle and is in the process of developing a bid for full-scale vehicle production. The primary concern is identifying and estimating all cost contributors for the production vehicle to determine a price to the customer.

To address this, the Tauber team coordinated with an AM General integrated product team (IPT) to identify the costs associated with moving from prototype to production. First, the team estimated the material cost of the current prototype design scaled to full production. As part of this effort, the team created a consolidated database of suppliers across AM General's military and commercial supply base to streamline purchasing and maximize economies of scale. Next, the team calculated the vehicle's total cost of ownership, mostly focusing on fuel expenditures, over the full lifetime of the vehicle to evaluate AM General's competitive standing beyond vehicle price. The team also assisted the IPT with determining required engineering investment—in dollars and time—to calculate a final vehicle price. The manufacturing costs and the capital investment required to set up a facility to run full scale production was also included in the final vehicle production price. Finally, the Tauber team coordinated with the IPT to develop multiple program timelines reflecting varying levels of investment risk and identifying the effects of each scenario on the overall program.

The primary challenge in calculating the program cost was the lack of complete and up-to-date information, as the vehicle was still in the development stage. The team identified appropriate sources of information, documented and justified assumptions, and explored options to populate missing data with a degree of confidence and precision. While the final cost remains confidential, the Tauber team provided major inputs to advise the IPT's ultimate recommendation to AM General and the company ownership regarding the status of the bid and the appropriate way forward.