OPRE 6398.001 Prescriptive Analytics

Reading 15*

There is no room for complacency in today's supply-heavy automotive industry. Faced with offerings from a broad array of domestic and foreign suppliers, 1990s consumers are demanding greater functionality, reliability, fuel efficiency, as well as improved safety features. Only those manufacturers that meet these expectations will survive. As Lee Iacocca put it, "In this market you either lead, follow, or get out of the way." Today's Chrysler is neither a follower nor a spectator.

Aware that the only way to succeed in this intense marketplace is to deliver superior product at a competitive price, Chrysler has focused its attention to achieving that goal by completely reassessing established production methodologies. However, the auto maker was not prepared to sacrifice quality. It was against this backdrop that the firm conceived the Dodge Viper, the high-performance sports car for the 1990s.

A team was formed to complete the development project from concept to roadster. This included developing an entirely new 8.0-liter V-10 aluminum engine and a six-speed transmission within three years. Typically, such projects required five years at Chrysler. Thus, from the very beginning of the undertaking, managers recognized the importance of consistent end-to-end project management.

Team members for the project were hand-picked, and a project management system called *Artemis Prestige* was selected as a tool to help coordinate the various tasks. The commercial package from Lucas Management Systems was able to track multiple events concurrently, allowed for user-computer interactions, provided scheduling personnel with a broad picture of the entire project, and helped identify the impact of each activity on the ultimate completion time. Additionally, "what if" analyses could be performed to assess the effect of changes in resource allocation and engineering designs. In general, the software programs served as a vital communications network to ensure that critical links between different parts of the project were finished according to the plan.

By most accounts, the project was an overwhelming success. For instance, the first test engine was built in less than a year. This was particularly important because several other major components of the new car model depended on the engine. Furthermore, the transmission was developed in one and a half years, down from the usual five to six years. Many significant innovations in the frame, body, and brakes were also incorporated into the Dodge Viper.

* Adapted from O'Keeffe, S. W. T. Chrysler and Artemis: Striking back with the Viper. *Industrial Engineering*, 1994, December, 15, 17.