

**Due:** March 24

Case Study: One In Twelve Cars Recalled Last Year

The increased number of recalls has many sources. First of all, the automobile industry shows greater commitment to safety. Manufacturers respond quicker to customer complaints and face more and more regulations. Moreover, advanced computer systems allow manufacturers to spot problems sooner, react more effective and with greater knowledge. In addition, manufacturers recall cars voluntarily to guarantee customer satisfaction and improve their image and hope to increase their customer base.

Detroit's Big Three—General Motors, Ford Motor, and DaimlerChrysler—face a harsh competition within the automobile industry. Especially, the Japanese automobile manufacturers are challenging them because of their extended car warranties and services on new vehicles or the impressive low recall rates. Furthermore, German cars such as BMW, Volkswagen, Audi, or Porsche with their sports-utility vehicle lines are becoming more and more popular in the United States, and thus contribute to an accentuation of competition. Therefore, U.S. car manufacturers are forced to lower their production cost while improving quality at the same time and introduce new models speedier. In recent years, auto makers have been ramping up the number of models they roll out annually in an effort to keep consumers coming back into the showrooms and factories humming.

Even though this very process leads to a larger number of recalls being employed by automobile manufacturers it is not that the cars are getting worse, but that the government, industry, and owners are getting better at identifying problems. Moreover, automobile manufacturers have an increasing number of safety standards to uphold in the production of their vehicles. If someone is injured due to one of their vehicles, they can be held liable and forced to foot the bill for recalls as well as any lawsuits that come up. To maintain customer satisfaction, the automaker needs to show that it is doing all it can to insure safety in its product. Manufacturing defects need to be detected before someone is injured or killed due because of one. By finding the defect, notifying the customer, promptly repairing it, and making the whole process as pleasant as possible, the automaker can help to ensure customer loyalty in an increasingly competitive marketplace.

To build a car without any defects and flaws is almost impossible or prohibitive regarding costs. Many Japanese automobile manufacturers introduced Six Sigma and Lean Manufacturing programs. While Six Sigma is an approach to quality improvement—focused on process capability, Lean Manufacturing is a system encompassing production, quality, maintenance, and engineering. Even though these programs helped to improve quality at lower costs there is still a trade-off between total safety and quality commitment and cost-value as well as opportunity cost calculations. Of course, a car recall is often associated with high costs. However, they are often lower than building the 'perfect car'. The opportunity costs by building this kind of car result in longer production procedures, fewer new models that are ready to hit the markets, and possible customer dissatisfaction. Moreover, this means a loss of valuable time compared to competitors.

In addition, as long as safety issues are not neglected, the strategy to build a car that is finished to 97% can pay off. To eliminate the remaining 3% costs the car manufacturer way more money—in terms of opportunity cost—than the actual recall. And many customers do not mind bringing in their cars. They know that these products are human made, and therefore not perfect; rather they see the recall as a free car repair. On the other hand, customers are continually demanding new and fancy features, more computer-based navigation systems, and all that at lower prices. In order to meet the customer's needs automobile manufacturers have to make wise decisions how to respond to these wants and to achieve that by lowering production cost and improving quality. The difficult task is to find the right balance between quality, safety, time, and cost.