Altaf Raffik

TCET2220

Engineering Ethics

12/16/2013

The Ford Pinto was a car that was first introduced in 1970 and built through 1980 model year. During crash tests of the Pinto before being sold a serious design flaw was discovered. The gas tank was designed so that when it was involved in a rear end collision at an impact speed of at least 20 MPH the tank was likely to rupture causing a fire and explosion. The gas tank was only 5 inches forward of the rear sheet metal of the body and only 3 inches from the rear axle. In most rear end crashes, the axle housing deformed the gas tank and sharp bolts punctured the tank. The conclusion was that the rear end structure was not satisfactory. Suggested changes would have cost about $11 per car. A confidential company memo directed that the safety features not be adopted until required by law indicating that Ford Motor Company knew about the problems. Design was rushed as the normal time to produce an automobile is 43 months while Ford took 25 for the Pinto. Because assembly line tooling was already in place when engineers found this defect, top Ford officials decided to manufacture the car anyway even though Ford owned the patent on a much safer gas tank.

On August 10, 1978, on Highway 33 in Goshen, Indiana a truck rear ended a Ford Pinto carrying three teenagers. The collision caused the gas tank to rupture and explode, killing all three teens. An Elkart County grand jury returned a criminal homicide charge against Ford, the first ever against an American company. During the 20-week trial the judge advised the jury that Ford should be convicted of reckless homicide if it were shown that the company had engaged in "plain, conscious and unjustifiable disregard of harm that might result (from its actions) and the disregard involved a substantial deviation from acceptable standards of conduct." The key phrase around which the trial hinged was "acceptable standards." Towards the end of the 1960s Ford was losing market share to smaller and cheaper European cars. In 1968 President Lee Lacocca decided a small cheap car had to be designed quickly for less than $2000. These requirements dictated styling over engineering where safety wasn’t enough of a priority even though Ford really had no experience with compact cars. The design met the safety requirements of the government. To justify their decision Ford made a cost-benefit analysis where the extra costs of $11 did not weigh against a reduction in injuries. The $137 million cost of the safer model dearly outweighed the benefits of $49.53 million (cost assessment on potential injuries/ deaths). The Elkhart County jury found Ford not guilty of criminal homicide. However Ford recalled 1.5 million cars for refitting after much pressure. Ford suffered a great deal of damage to its reputation along with the many legal settlements that came about. Ford could have given consumers the choice to have an improved tank installed at limited costs, or to settle for the original design. In this way the consumer could make his/her own choice and the extra risk would have been voluntary.