

A Classic Case Study

Module 5 of a course on *Ethical Issues in AI*

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A Classic Case Study

- A well-known case study illustrates application of ethical principles.
 - *A vehicle recall dilemma for Ford Motor Company*
 - *We have an **insider's narrative** of how the decision was made.*



Ford Pinto

- Early 1970s: Exploding gas tank in Ford Pinto
 - *in low-speed collisions.*



Ford Pinto

- The company knew of the danger.
 - *Decided not to recall the car and fix the defect.*
 - *Would have cost \$11 per car.*
 - To fix bolts that punctured the gas tank on collision.



Ford Pinto

- Dennis Gioia tells the inside story honestly in an article.

Pinto Fires and Personal Ethics:
A Script Analysis of Missed Opportunities

Journal of Business Ethics **11**: 379–389, 1992.

Dennis A. Gioia



The Decision

- Cost-benefit analysis showed that the defect should not be fixed.

Costs: \$137 000 000

(Estimated as the costs of a production fix to all similarly designed cars and trucks with the gas tank aft of the axle (12 500 000 vehicles \times \$11/vehicle))

Benefits: \$49 530 000

(Estimated as the savings from preventing (180 projected deaths \times \$200 000/ death) + (180 projected burn injuries \times \$67 000/injury) + (2 100 burned cars \times \$700/car))

The Decision

- 1978: Ford executives prosecuted for reckless homicide.
 - *After 3 teenage girls were killed by exploding gas tank in Indiana.*
 - *Ford executives acquitted due to lack of evidence.*

The Decision

- Gioia later began using the Pinto case in his business school classes.
 - *Then and for years afterward, he believed he had made the right decision at Ford, given the evidence at hand.*
 - *Then he changed his mind (according to his article).*
 - **Why?**
 - *He doesn't explain.*
- Let's analyze the issue.

Ethical Analysis

- The cost-benefit analysis was a legitimate **utilitarian** calculation.
 - *Considered **total** net expected utility, measured in monetary terms.*
 - Not just company cost.

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 - *Suppose a city places infinite value on life.*
 - It will devote its **entire budget** to traffic safety, an nothing to schools, etc.
 - *Suppose a car dealer offers a safety feature that reduces the chance of a fatal accident by 1 in 1000.*
 - How much extra would you **pay** for this feature?
 - Multiply by 1000 to get the **value of your life**.

Ethical Analysis

- The cost-benefit analysis was a legitimate **utilitarian** calculation.
 - *Failure to fix the defect **may well have satisfied the utilitarian principle.***
 - *But there are **two other principles** to satisfy!*

Ethical Analysis

- Failure to recall violates **autonomy**.
 - *Ford was rationally constrained to believe that the defect would cause serious injury or death for at least one person.*
 - In fact, many people (as assumed by Ford's cost/benefit analysis).
 - This is **violation of autonomy** without informed consent.



Ethical Analysis

- Failure to recall violates **autonomy**.
 - *Why no informed consent?*
 - True, **all car manufacturers** are rationally constrained to believe that **people will be killed in their cars**.
 - But customers give **informed consent** to this risk, because they assume the normal risks of driving.
 - A defective gas tank is not normal and therefore **not a risk assumed by the customer**.



Ethical Analysis

- Failure to recall may violate **generalization principle**.
 - *Violation of implied warranty.*
 - There is an implied **agreement** that the product is fit for the purpose for which it is sold (**warranty of merchantability**).
 - Perhaps a car that can explode in low-speed collisions is unfit for driving your kids to school (for example).
 - Violation of this agreement, merely for profit or convenience, is contrary to generalization principle.



Conclusion

- Ford's decision not to recall was **unethical**.
 - *Because it satisfied only **one** principle.*
 - It is necessary to satisfy **all three**.
- **Utilitarian** principle: Probably **satisfied**
- **Autonomy** principle: **Violated**
- **Generalization** principle: Probably **violated**