

In-Class Worksheet

Analyzing the Societal Impact of Technological Solutions.

To understand how engineering decisions influence the distribution of benefits and harms across different segments of society.

Note: Throughout this assignment, consider the full life-cycle of the innovation, from research and development to implementation and eventual obsolescence.

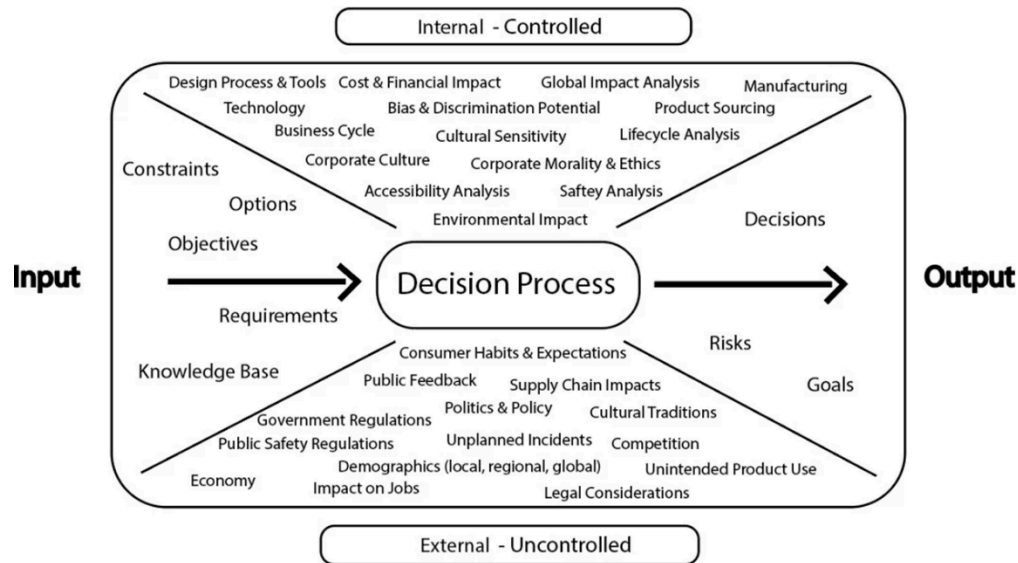
Part 1: Innovation Analysis

1. Which case study did you choose? _____
2. Provide a brief description of the innovation (2-3 sentences):
 - What is its purpose?
 - How is it used?
3. Benefits Analysis:
 - List 3 potential benefits of this innovation.
 - For each benefit, identify which groups in society are most likely to enjoy this advantage.
4. Harms Analysis:
 - List 3 potential negative impacts or risks associated with this innovation.
 - For each harm, identify which groups in society are most likely to bear this cost or risk.
5. Distribution Assessment: Based on your analysis, is there an imbalance in how the benefits and harms are distributed across different societal groups? Explain your reasoning.

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Part 2: Decision Making Context

Refer to the below diagram:



1. Identify 3 decision-making contexts from the diagram that you believe were likely considered during the development of your chosen innovation. For each, explain how it might have influenced design choices.
2. Identify 2 decision-making contexts that you believe were overlooked or underemphasized. For each, explain how greater consideration of this context might have led to a more equitable distribution of benefits and harms.

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Part 3: Ethical Reflection

1. If you were on the engineering team developing this innovation, what additional steps or considerations would you propose to ensure a more equitable distribution of benefits and minimization of harms?
2. How might implicit biases or lack of diverse perspectives on the engineering team have contributed to any imbalances in the distribution of benefits and harms?

Report out:

1. A brief (30-second) description of your chosen innovation.
2. The most significant benefit and who it primarily benefits
3. The most significant harm and who it primarily benefits.
4. One decision-making context you believe was overlooked in the innovation's development and how considering it could have led to a more equitable outcome.