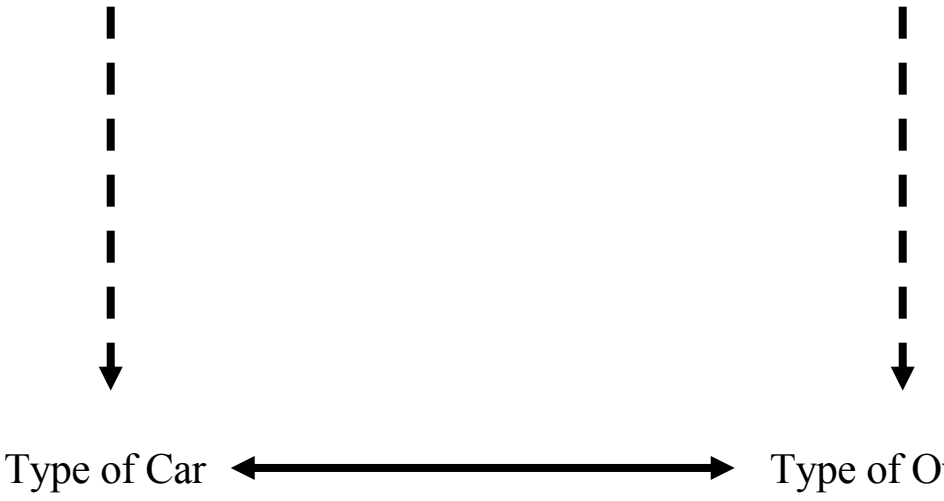
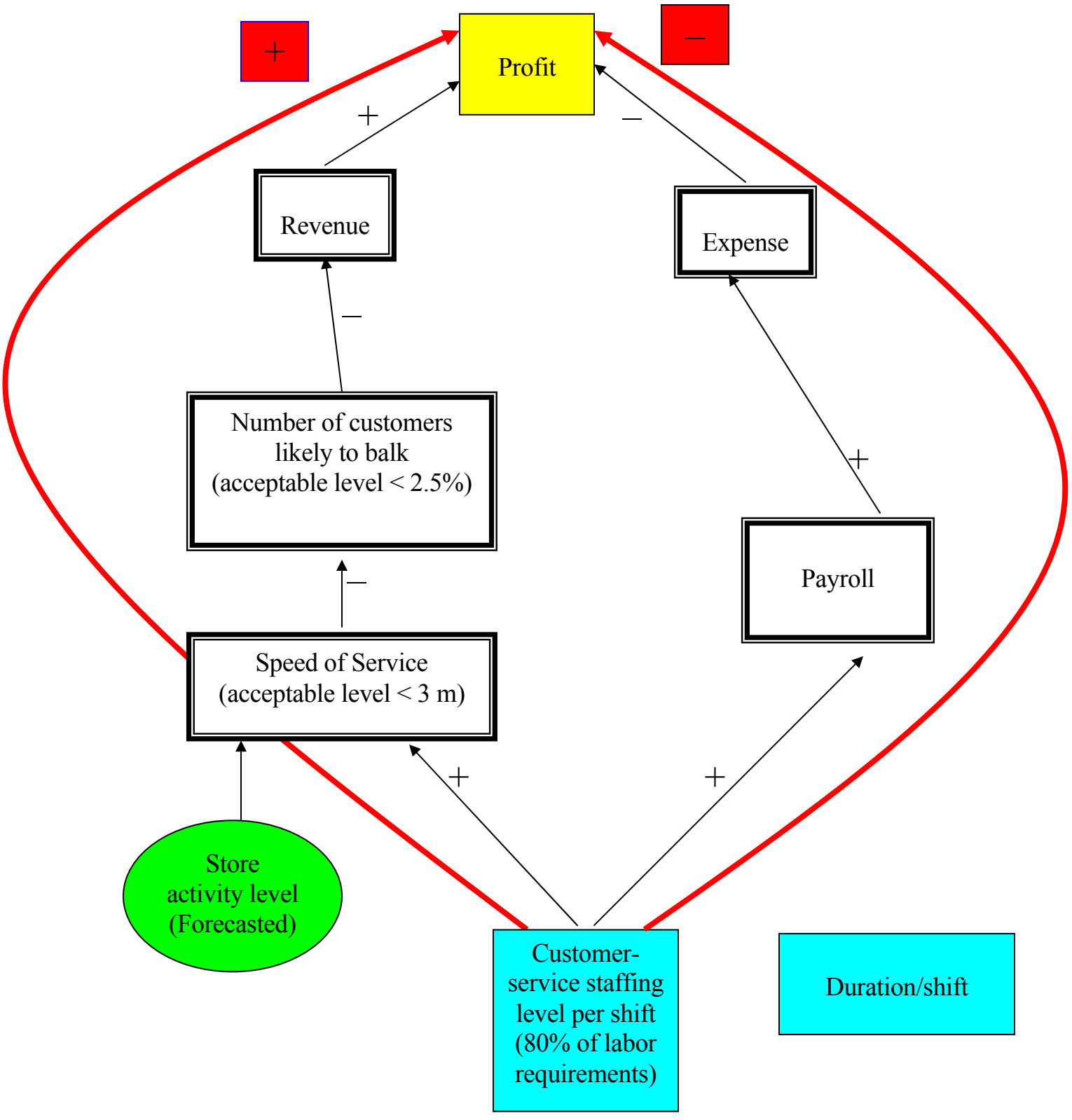
Who Was Driving Which Car?

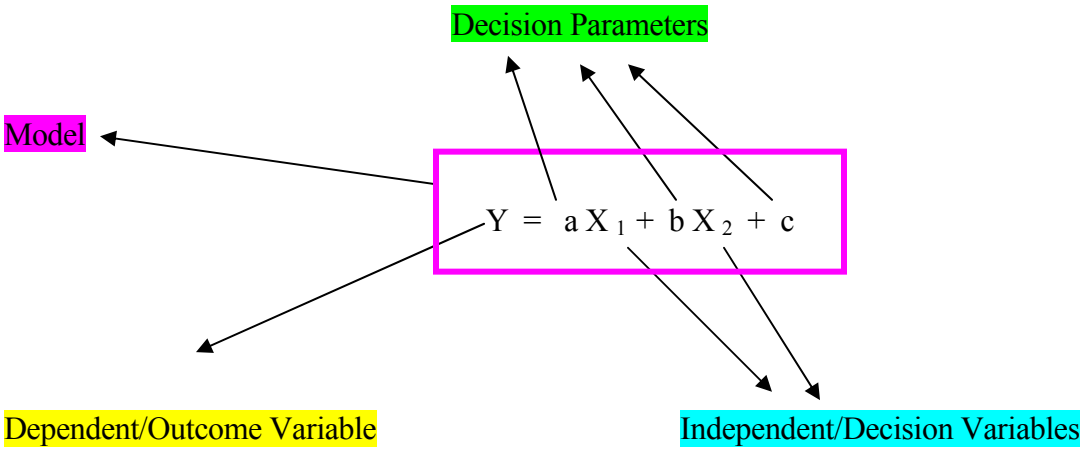
A. Cadillac	1. A young couple + 2 kids
B. Honda Accord	2. A trendy young woman
C. Corvette	3. An elderly couple

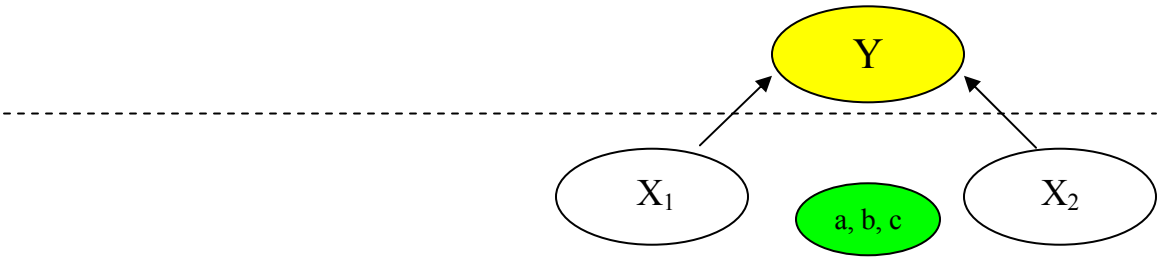


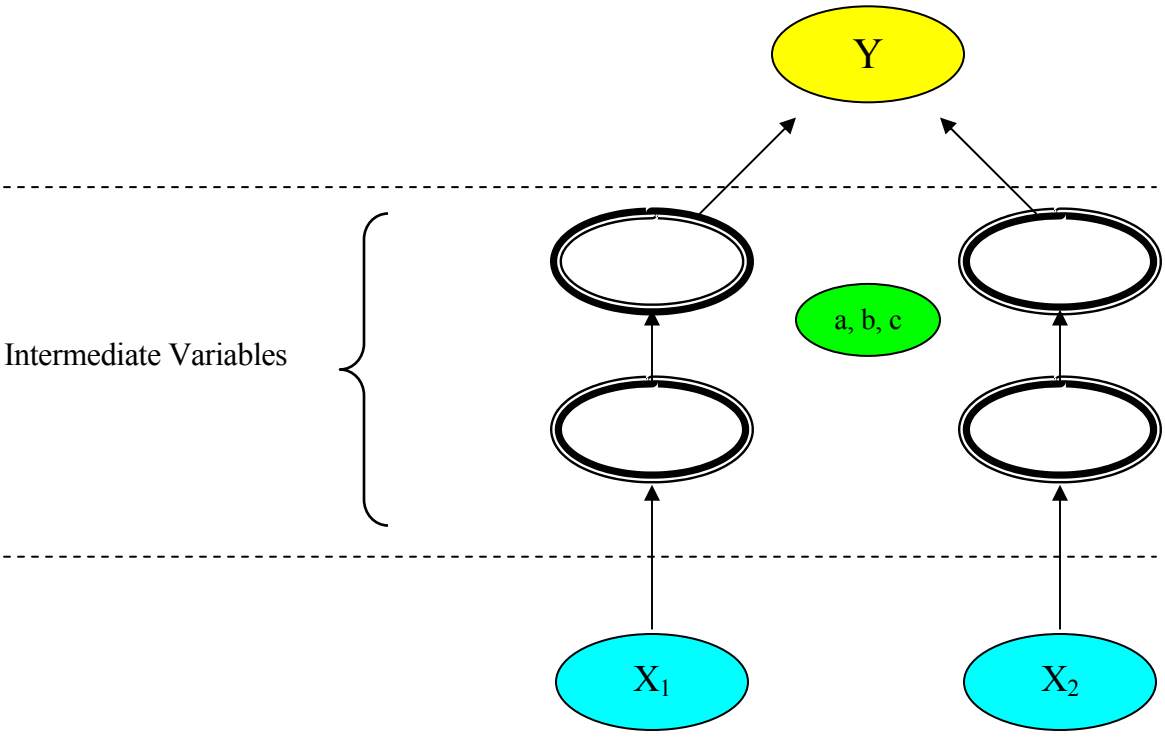
Taco Bell DSS



The Anatomy of Mathematical Models







Breakeven Analysis

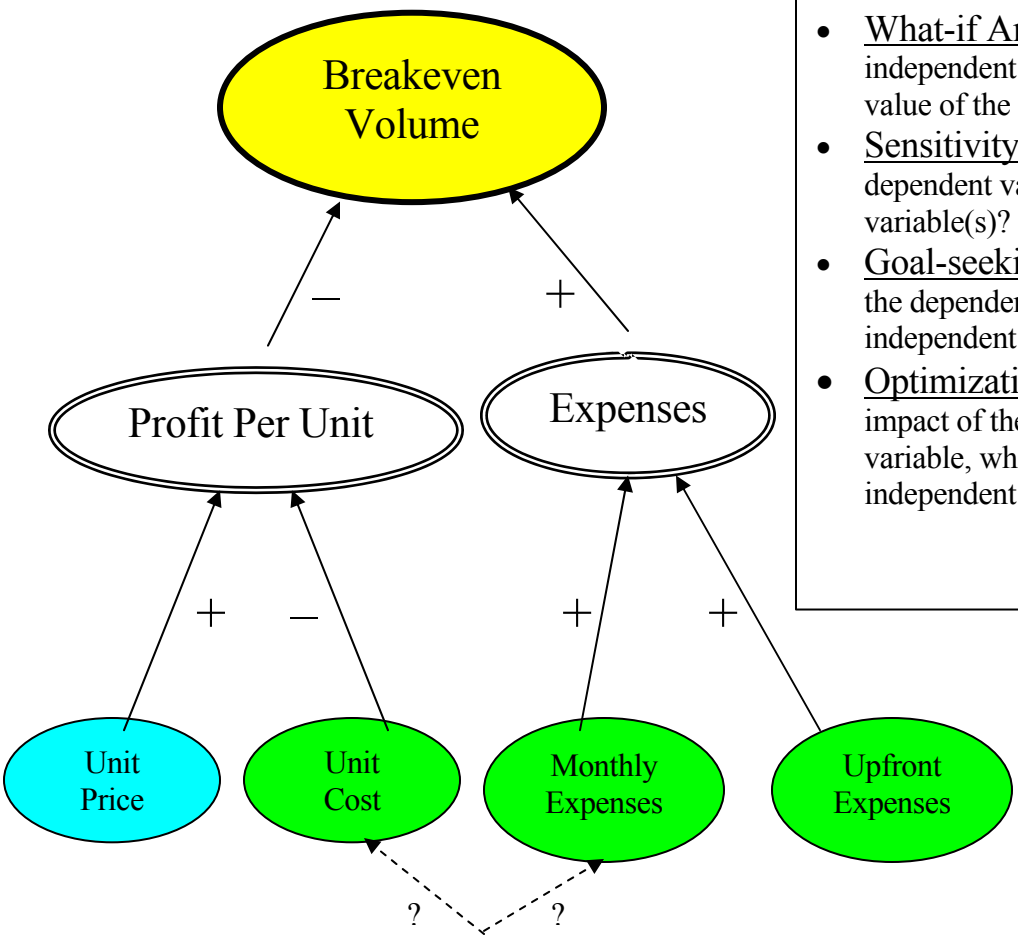
Mathematical Model

Dependent/Outcome Variable

Uncontrollable Variable (Parameter)

$$\text{Breakeven Volume} = \frac{\text{Upfront Expenses} + \text{Monthly Expenses}}{\text{Unit Price} - \text{Unit Cost}}$$

Independent/Decision Variable



Using Mathematical Models

- What-if Analysis: Given a certain value(s) of the independent variables, what is the corresponding value of the dependent variable?
- Sensitivity Analysis: How sensitive is the dependent variable to changes in the independent variable(s)?
- Goal-seeking Analysis: Given a desired value of the dependent variable, what value(s) of the independent variable(s) would produce it?
- Optimization Analysis: Given the tradeoff impact of the independent on the dependent variable, what is the optimal value of the independent variable?