Example: The Palace

Pizza from The Palace is the traditional game day meal in a small college town. Shoshana is one of sixteen students who delivers pizza on football weekends. This job is her only source of spending money. Because many alumni return for games, as soon as she returns from a delivery, another will be waiting for her. Her hourly wage is small, but tips average about $20/hour. Driving faster allows her to make more deliveries and more tips. However, the cost of operating her car increases as she goes faster. Experiments show that driving at 25 mph costs $0.25/mile, at 30 mph costs $0.30/mile, and at 40 mph costs $0.40/mile.

1. What are the possible missions? - Which one would you choose? (Explain)
2. Who are the owners?
3. Write an initial problem statement.
4. Validate your understanding, and describe how you did it.
5. Write a detailed problem statement.
6. What are possible models for this problem? - Develop one, and internally validate it.
7. Why did you choose this model?
8. Solve your model, and externally validate it.
9. Is it sufficient to solve the problem? - What are its strengths and weaknesses?
10. What insight have you gained?
11. If you had more time and resources, what would you do differently?