Assignment 07

Due on 2020-03-16, 11:59 PM ET

The main goal of this assignment is to practice modeling and simulation using System Dynamics. You are required to model a system that involves interdependent processes and feedback loops. The assignment involves using the Vensim software to build a model and then answering questions based on the model's behavior.

**Model Description:**
- The model represents an interdependent system with feedback loops.
- The model includes variables such as inventory levels, order rates, and delivery times.
- The model is designed to simulate the behavior of a supply chain system.

**Tasks:**
1. **Model Construction:**
   - Use Vensim to construct the model based on the given specifications.
   - Ensure that all variables and feedback loops are accurately represented.

2. **Analysis:**
   - Answer questions based on the model's behavior.
   - Use the model to predict outcomes under different scenarios.

3. **Report Submission:**
   - Prepare a report summarizing your findings and conclusions.
   - Submit the Vensim model file along with the report.

**Scenario Analysis:**
- Scenario A: Order Rate increases by 10%.
- Scenario B: Delivery Time decreases by 5 days.
- Scenario C: Inventory Level increases by 20%.

**Questions:**
1. Which scenario results in the highest order rate?
2. Which scenario results in the lowest delivery time?
3. Which scenario results in the lowest inventory level?
4. Which scenario results in the highest order rate for a specific period?
5. Which scenario results in the lowest delivery time for a specific period?
6. Which scenario results in the lowest inventory level for a specific period?

**Evaluation Criteria:**
- Proper model construction: 3 points
- Correct analysis and interpretation of results: 5 points
- Report presentation: 2 points

Good luck with your assignment!