Transport_Route_Planning - Questions

Q1. After OR-assisted routing, the number of routes decreases while total distance traveled remains approximately the same. Total transportation cost still decreases. What is the primary reason for this cost reduction?

A. Lower variable cost per kilometer
B. Fewer fixed trip costs due to better consolidation
C. Shorter average delivery distances
D. Improved on-time delivery performance

Correct answer: B. Fewer fixed trip costs due to better consolidation

Q2. Average vehicle utilization increases from 74 percent to 86 percent after OR-assisted routing. Which managerial conclusion is most accurate?

A. Trucks are being driven faster
B. Demand has increased
C. Orders are better consolidated onto fewer vehicles
D. Vehicle capacity has increased

Correct answer: C. Orders are better consolidated onto fewer vehicles

Q3. In the baseline scenario, about 20 percent of routes are over capacity, but total cost may look attractive. Why is the baseline plan operationally invalid even if cost appears low?

A. It violates delivery windows
B. It ignores fixed transportation costs
C. It cannot be physically executed as planned
D. It uses too many vehicles

Correct answer: C. It cannot be physically executed as planned

Q4. In this session, Operations Research was primarily used to:

A. Forecast future transportation demand
B. Predict traffic delays
C. Compute the best assignment under cost and capacity constraints
D. Automatically optimize warehouse picking

Correct answer: C. Compute the best assignment under cost and capacity constraints

Q5. After OR-assisted routing, on-time delivery remains unchanged while cost and utilization improve. What does this imply about the OR solution?

A. It optimized cost by sacrificing service
B. It improved service but ignored cost
C. It achieved efficiency gains without violating service performance
D. It overfit the historical data

Correct answer: C. It achieved efficiency gains without violating service performance