UNITED INTERNATIONAL UNIVERSITY

ASSIGNMENT - 01

Topic: Problem Solving
Course Name: Industrial and Operational Management
Course Code: IPE 3401
Section: C

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Technology Acquisition Method for "Lichi"
- Method: Licensing or Strategic Alliance
- Factors:
    - Low Investment: Licensing requires less capital compared to acquiring a company or developing technology in-house.
    - Quick Access: Provides immediate access to Mapple's technology.
    - Expertise: Leverages Mapple's expertise without needing to develop it internally.

Answer to the question - 01

NPV Method and Independence
- Explanation: The Net Present Value (NPV) method evaluates each project's value separately based on cash flows and discount rate.
- Calculation: Calculate NPV for each project using the formula:

$$NPV = \sum R_t/(1 + r)^t - C_0$$

where R_t is the net cash inflow during the period, r is the discount rate, t is the period, and C_0 is the initial investment.

Answer to the question - 03

BCG Matrix Category and Next Steps
- Category: Cash Cow (high market share, low growth)
- Next Steps:
    - Maintain: Focus on maximizing cash flow from loyal customers.
    - Optimize: Improve efficiencies and reduce costs.
    - Invest: Consider reinvesting in other high-growth areas.

Answer to the question - 04

Economic Order Quantity (EOQ)
- Concept: EOQ is the order quantity that minimizes total inventory costs, which include holding costs and ordering costs.
- Formula:

$$EOQ = \sqrt{2DS/H}$$

where D is the demand, S is the ordering cost per order, and H is the holding cost per unit.

- Significance: EOQ helps minimize total costs by determining the optimal order quantity, reducing both excess inventory and stockouts.
- Diagram: Show the EOQ formula graphically with total cost vs. order quantity.

Answer to the question - 05

Role of Technology Management and Challenges
- Role: Technology management helps in gaining a competitive edge through innovation, efficiency, and improved processes.

- Challenges:
  - Integration: Difficulty in fitting new technologies into existing systems.
  - Cost: High initial costs and ongoing maintenance.
  - Training: Need for employee training and adaptation.

- Example: Implementing a new CRM system to improve customer service and sales processes. Management must ensure integration with existing tools, train staff, and manage costs effectively.