

Question (1)



Case Study 1: Improving Restaurant Wait Times (DMAIC Method)



- **Background:** A popular local restaurant is experiencing longer-than-average wait times during peak hours. This issue is leading to increased customer complaints and a noticeable loss in business. The restaurant seeks to reduce wait times to improve customer satisfaction and increase overall profitability.

Question (2)



Case Study 2: Software Upgrade Rollout (PDCA Method)



- **Background:** A technology firm is preparing to roll out a major software update designed to enhance user experience and introduce new features. Previous upgrade rollouts have encountered user resistance and bug -related complaints, affecting user satisfaction and the overall success of the updates. The firm aims to use the PDCA method to ensure a smoother rollout, minimize issues, and improve user acceptance.

Question (3)



Case Study 3: Reducing Employee Turnover (Root Cause Analysis)

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- **Background:** A retail company has been experiencing high employee turnover over the past year, especially among new hires within their first six months of employment. This high turnover rate is impacting team stability and increasing recruitment and training costs. The company aims to use Root Cause Analysis to identify the underlying causes of this issue and develop strategies to improve employee retention.

Question (4)

Problem 1: Applying DMAIC

A restaurant is experiencing an unusually high turnover rate of its wait staff. Use the DMAIC framework to propose how the management could address this issue. Include at least one action for each step.

Problem 2: Root Cause Analysis (RCA)

A retail store finds that its weekend sales have been consistently low compared to weekdays. Conduct a root cause analysis using the Five Whys technique to determine potential reasons and suggest actionable solutions.

Problem 3: PDCA in Real Life

Your team is responsible for launching a new customer feedback portal for a company. Describe how you would use the PDCA cycle to ensure a successful implementation of the portal.

Problem 4: Crafting SMART Questions

Rewrite the following vague question into a SMART question:

"How can we improve customer satisfaction in our service?"

Question (4)

Multiple-choice questions (MCQs)

1. What is the primary purpose of the DMAIC framework?
 - a) Conducting market research
 - b) Improving and stabilizing processes
 - c) Designing new products
 - d) Evaluating employee performance

2. Which step in the DMAIC framework focuses on identifying the root causes of defects?
 - a) Define
 - b) Measure
 - c) Analyze
 - d) Control

3. In the PDCA cycle, what is the main goal of the "Check" phase?
 - a) Develop solutions to the problem
 - b) Evaluate the effectiveness of a tested solution
 - c) Monitor and sustain the improvements
 - d) Identify new problems for analysis

4. What tool is commonly used in Root Cause Analysis (RCA) to identify underlying causes?
 - a) Pareto Chart
 - b) Fishbone Diagram

- c) Gantt Chart
- d) PERT Chart

5. Which of the following best describes a "Specific" question in the SMART framework?

- a) Broad and general in nature
- b) Focused on a precise topic or issue
- c) Aimed at long-term goals
- d) Evaluating multiple issues at once

6. What is a significant risk associated with poor-quality data?

- a) Increased computational speed
- b) Misleading analysis and decisions
- c) Reduced use of technology
- d) Enhanced security protocols

7. What does data-driven decision-making emphasize?

- a) Subjective judgment and intuition
- b) Decisions made purely from data insights
- c) Equal weighting of intuition and data
- d) Avoiding the use of analytics tools

8. What is a major issue in integrating data from diverse sources?

- a) Excessive storage requirements
- b) Breaking down data silos
- c) Reduced data collection rates

d) Overloading analytics dashboards