Example for writing a case study

Information Systems Management - Data & Business

Example topic:
Predictive Maintenance Strategy for Company X's Manufacturing Equipment

Read the given article and the tasks below. You are expected to write a case study and answer all given questions.

Company X is a manufacturing firm that specialises in producing high-quality electronic components. The company operates a range of complex machinery in its production process and has recently implemented a system to monitor equipment health in real time. This system collects a vast amount of data, including machine temperature, vibration, operation hours, and error codes. Company X's operations team faces the challenge of using this data to predict equipment failures before they occur, aiming to:

- Reduce unplanned downtime by preemptively identifying and addressing equipment issues.
- Optimise maintenance schedules, ensuring that maintenance is performed only when necessary to minimise disruptions and maintenance costs.

Read this article

Brink, H., Krych Adam, Cardenas, O. R., & Tiwari, S. (2021, July 19). New potential from analytics-driven maintenance technologies | McKinsey. https://www.mckinsey.com/capabilities/operations/our-insights/establishing-the-right-analytics-based-maintenance-strategy

The applicants are expected to:

- Outline a strategy for implementing predictive maintenance using the IoT system data to anticipate equipment failures.
- Describe your approach to analysing and understanding the challenges associated with predicting equipment failures.
- Discuss the predictive models or system of models you would develop using the described data to forecast equipment failures. Consider the feasibility of incorporating additional data types, explaining the rationale behind these choices.
- Explain how you would evaluate the success of your predictive maintenance strategy.
- Identify key performance indicators (KPIs) for assessing the strategy's impact on reducing downtime and maintenance costs. Define the conditions under which the strategy would be deemed successful.
- Detail how you would present the results and their significance in relation to the maintenance strategy. If you envision using data visualisations, describe or sketch potential formats that could effectively convey your findings in a realistic implementation.
- Compile relevant and reliable resources or data that could be utilised to support your predictive analysis and strategy formulation.

The recommended length of the case study is 2.000 words. Avoid plagiarism.