

Problem Statement

Database Problem: Optimizing Supply Chain and Customer Management

Scenario:

TechGear Inc. is a leading company in the design, manufacturing, and distribution of cutting-edge electronic devices such as smartphones, tablets, and smartwatches. The company aims to deliver innovative technology to its customers, maintaining a competitive edge in the market.

WHO:

TechGear Inc.: Specializes in manufacturing high-tech gadgets.

Customers: Tech enthusiasts, gadget lovers, and businesses seeking advanced technological solutions.

WHAT:

Products/Services: A range of electronic devices, including smartphones, tablets, and smartwatches, with the latest technology and innovative features.

WHY:

Profitability: Continuous innovation and high-quality products attract customers willing to pay a premium.

Customer Attraction: Reputation for delivering advanced technology, sleek design, and reliable performance.

HOW:

Revenue Generation: Mainly through sales of electronic devices with a significant profit margin.

Procurement and Manufacturing: Raw materials sourced from various suppliers, used in the manufacturing process to create components and parts. Devices are assembled, tested, and production costs include raw materials, subparts, manufacturing labor, and quality control.

Our manufacturing process involves creating devices with various subparts, each associated with a cost. To minimize losses, we implement quality control measures, tracking the quantity produced and rejected for each part. This data helps us identify and address issues promptly, reducing manufacturing costs and improving overall efficiency. Analyzing failure reasons through queries guides continuous improvement in the manufacturing process.

Logistics and Supplier Management: Tight schedules for raw material delivery and manufacturing ensure efficient production cycles.

Order Placement: Customers can place orders through various channels, and real-time inventory status is maintained.

Payment Process: Multiple payment methods available for customer convenience.

Increasing Revenue: Utilizing customer feedback, reviews, and market trends to improve products and introduce new features.

Product Delivery: A distribution network and third-party carriers are employed to ensure timely product delivery.

Challenge:

TechGear Inc. faces the challenge of optimizing its supply chain to ensure a steady flow of raw materials, efficient manufacturing, and timely delivery. Additionally, a robust customer management system is needed to track orders, manage payments, and gather insights for product improvement.

Database Solution:

Develop a comprehensive database system that integrates supplier information, raw material inventory, production schedules, customer orders, payment details, and customer feedback. The database should provide real-time visibility into the entire supply chain, streamline order processing, and facilitate data-driven decision-making for product enhancements.