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## Task 1: Data Science Applications Brainstorm

### 1. Personalized Content Recommendation (Netflix):

Many streaming services use data science to suggest shows, movies, and songs based on what users have watched or listened to before. They use machine learning to analyse viewing history and engagement patterns to figure out what someone might like next.  
Expected Outcome: Users stay engaged for longer, watch more content, and are less likely to leave the platform.

### 2. Dynamic Pricing (Amazon):

Online stores, ride-hailing services, and booking platforms change their prices based on demand, competition, and customer behaviour. AI helps these companies adjust prices automatically to maximize profits while still being competitive.  
Expected Outcome: Companies make more money, customers get fair prices, and pricing stays competitive.

### 3. Supply Chain and Inventory Management (Walmart):

Big companies track sales data and market trends to manage their stock efficiently. AI models help predict demand and ensure warehouses have the right amounts of products without overstocking or running out.  
Expected Outcome: Faster deliveries, fewer shortages, and better stock management.

### 4. Fraud Detection and Security (PayPal):

Data science helps detect fraud by analysing how users behave when they make purchases or transactions. If something looks unusual—like a sudden big purchase from another country—AI can flag it for review.  
Expected Outcome: Fewer fraud cases, safer transactions, and better trust from customers.

### 5. Chatbots and AI Customer Support (google Assistant):

Many companies use AI chatbots to answer common customer questions or provide recommendations. These bots learn from conversations and get better at understanding what people need over time.