Assignment: Churn Rate in Retail Industry

1. What is Churn Rate?

Churn rate, also known as customer attrition rate, refers to the percentage of customers who stop doing business with a company over a given time period. In retail, churn represents customers who no longer purchase products or engage with the brand.

2. Why and Where is Churn Rate Used?

Churn rate is widely used across industries like telecom, retail, banking, and subscription services. In retail, it is important because acquiring new customers is often more expensive than retaining existing ones. It helps businesses to:
- Identify at-risk customers.
- Improve customer loyalty strategies.
- Forecast revenue losses.
- Optimize marketing and engagement campaigns.

3. How is Churn Rate Used?

Retailers use churn analysis to segment customers into groups such as loyal, at-risk, and lost customers. They analyze purchasing behavior, frequency, and feedback to design retention campaigns such as discounts, personalized offers, and loyalty programs.

4. How to Measure Churn Drivers?

Churn drivers can be measured using various data points and analytical methods:
- **Quantitative Metrics:** Purchase frequency, average order value, time since last purchase, and complaint records.
- **Qualitative Metrics:** Customer surveys, feedback forms, Net Promoter Score (NPS).
- **Predictive Analytics:** Machine learning models like logistic regression, decision trees, and clustering to identify high-risk customers.

5. Implementation in Real Projects

To implement churn analysis in real retail projects, businesses follow these steps:
1. Collect data: customer transactions, demographics, and behavior.
2. Preprocess data: clean and organize for analysis.
3. Identify churn definition (e.g., no purchase in 6 months).
4. Apply churn models to predict at-risk customers.
5. Design interventions like loyalty rewards and targeted promotions.
6. Monitor results and refine strategies.

6. Workflow Diagram of Churn Analysis

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│ Data Collection  │───│ Data Preprocessing│───│ Churn Definition │
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        ┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
        │ Modeling &       │   │ Intervention     │   │ Monitoring &     │
        │ Prediction       │   │ Strategies       │   │ Feedback         │
        └──────────────────┘   └──────────────────┘   └──────────────────┘
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