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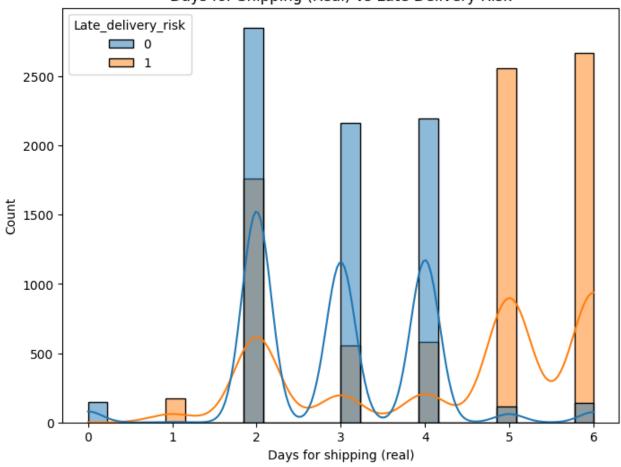
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# Import libraries
import pandas as pd
import numpy as np
import seaborn as sns

```
import matplotlib.pyplot as plt
from sklearn.model selection import train test split
from sklearn.tree import DecisionTreeClassifier
from sklearn.metrics import accuracy score, classification report
# Load dataset
data = pd.read csv('/content/CompanySupplyChainDataset.csv', encoding='ISO-8859
# Map 'Delivery Status' column to numeric values
data['Delivery Status'] = data['Delivery Status'].map({
    'Late delivery': 1,
    'Advance shipping': -1,
    'Shipping on time': 0,
    'Shipping canceled': -2
})
# Define features and target variable
X = data[['Days for shipping (real)', 'Days for shipment (scheduled)', 'Deliver
y = data['Late delivery risk']
# Split data into training and testing sets
X train, X test, y train, y test = train test split(X, y, test size=0.3, random
# Train a Decision Tree Classifier
model = DecisionTreeClassifier(random state=42)
model.fit(X train, y train)
# Predict on test set
y pred = model.predict(X test)
# Evaluate model
accuracy = accuracy score(y test, y pred)
print("Model Accuracy:", accuracy)
print(classification report(y test, y pred))
# Visualization 1: Distribution of Days for Shipping vs. Late Delivery Risk
plt.figure(figsize=(8, 6))
sns.histplot(data, x='Days for shipping (real)', hue='Late delivery risk', kde=
plt.title('Days for Shipping (Real) vs Late Delivery Risk')
plt.show()
# Visualization 2: Scatter Plot of Days Scheduled vs. Real Days with Late Deliv
plt.figure(figsize=(10, 6))
sns.scatterplot(data=data, x='Days for shipment (scheduled)', y='Days for shipment
plt.title('Days Scheduled vs Real Days with Late Delivery Risk')
plt.show()
# Visualization 3: Delivery Status and Late Delivery Risk
plt.figure(figsize=(8, 6))
sns.countplot(data=data, x='Delivery Status', hue='Late delivery risk')
plt.title('Delivery Status vs Late Delivery Risk')
plt.show()
```

Model Accurac	y: ı.⊍ precision	recall	f1-score	support
0	1.00 1.00	1.00 1.00	1.00 1.00	2285 2491
accuracy	1.00	1.00	1.00	4776
macro avg	1.00	1.00	1.00	4776
weighted ava	1.00	1.00	1.00	4776

## Days for Shipping (Real) vs Late Delivery Risk



## Days Scheduled vs Real Days with Late Delivery Risk

