PROJECT-2

Project Description: Customer Insights and Segmentation Analysis for E-commerce Platform

This project revolves around analysing customer behaviour and segmentation within an e-commerce context using Python and various data visualization techniques. The dataset used contains information about customers' demographics, browsing behaviour, and purchase activities.

Data Exploration and Summary: The initial phase involves importing the dataset and conducting exploratory data analysis:

- Summary statistics for numeric and categorical variables are computed to understand the dataset's distribution and characteristics.

Exploratory Data Visualization: Several visualizations are created to gain insights into the dataset:

- **Histogram of Age Distribution**: Visualizes the age distribution of customers.
- **Bar Chart of Gender Distribution**: Shows the gender distribution among customers.
- **Scatter Plot of Product Browsing Time vs. Total Pages Viewed**: Analyses the relationship between time spent browsing and pages viewed.
- **Grouped Bar Charts**: Display average total pages viewed by gender and device type to understand browsing behaviour across different segments.

Customer Segmentation: Customer Lifetime Value (CLV) is calculated and used to segment customers into:

- **Low Value**, **Medium Value**, and **High Value** segments based on their CLV. This segmentation helps in identifying valuable customer segments for targeted marketing strategies.

Conversion Funnel Analysis: A funnel analysis is performed to understand customer behaviour from browsing to purchase:

- Visualizes how product browsing time correlates with the number of items added to the cart, providing insights into the conversion process on the platform.

Churn Analysis: The project concludes with an analysis of churn rate:

- Computes the proportion of customers who have not made any purchases (churned). This insight is crucial for customer retention strategies.

Conclusion: The project highlights important insights into customer behaviour on the e-commerce platform. It identifies potential areas for improvement such as reducing churn rate and optimizing customer engagement strategies. Overall, the analysis provides actionable insights aimed at enhancing business growth and profitability in the e-commerce domain.