

## **Business Insights from EDA**

### **1. Regional Customer Distribution:**

Our customer data, visualized in a count-plot by region, shows varying levels of customer density. This indicates that tailoring marketing efforts and promotions to specific regions with higher customer concentrations could yield stronger results. By prioritizing these areas, we can potentially increase customer engagement and boost sales.

### **2. Regional Spending Power:**

Our boxplot analysis reveals a wide range of transaction values across different regions. Regions with higher transaction values indicate a greater willingness to spend among customers in those areas. This finding suggests that tailoring marketing efforts and offering premium products in these affluent regions could potentially increase revenue and enhance customer satisfaction.

### **3. Seasonal Trends:**

Our monthly revenue data shows a notable increase in sales during July 2024. This mid-year peak suggests potential seasonal factors, such as promotions, holidays, or events, influencing consumer behaviour. To effectively leverage this trend, businesses should strategically plan targeted marketing campaigns and ensure sufficient inventory to meet the anticipated higher demand during this period.

### **4. Customer behaviour:**

Our analysis shows that a small portion of our customer base drives a significant portion of our transactions. This highlights a disparity in customer engagement, with some customers highly active and others less so. To foster greater customer loyalty and encourage repeat business, we can consider implementing loyalty programs or targeted marketing campaigns.

### **5. Product Strategy:**

Our product pricing analysis reveals a wide price spectrum. This presents an opportunity to expand our offerings by introducing budget-friendly options to attract price-conscious customers and premium products to cater to those seeking higher quality. Diversifying our product range allows us to reach a wider market, potentially increasing overall sales and improving customer satisfaction.

### **6. Customer acquisition:**

In 2024, we witnessed a significant increase in customer signups, exceeding 40% of all new registrations. This surge likely stems from successful marketing initiatives or the introduction of new products. To maintain this growth momentum, we should consider replicating the strategies and campaigns that contributed to this success.