

## Zeotap DataScience Task

---

### EDA(Exploratory Data Analysis)

- **Business Insights obtained after EDA:**

1. **Disproportionate Revenue From High-Value Products :** Approximately 15% of products in a small subset generate half of the revenue.
  - These—often expensive—products are common in the “Electronics” category with a higher Average Order Value.
  - Concentrating marketing action on these items may provide quick sales boosts.
2. **Repeat Purchases Are Lopsided Towards a Few Regions :** North America and Europe account for over 60% of repeat transactions.
  - Customers in these locations generally buy again 3–4 weeks after their first transaction.
  - Localised retention campaigns for these regions could further enhance the repeat purchase rate.
3. **Transactions Accelerate At Almost Every End Of The Year :** The transaction volume for companies usually speed up from November through December - typically a tune-up a seasonal washing event.
  - Most transactions experience 20 - 30 % average increment. The chance to design and carry out the end-of-year sales or inventory clearance targets adds excellent return on investment.
4. **New Customer Signups Correlate with Marketing Campaigns :** The growth point for new registrations for these sites originates from marketing support.
  - There were several notable peaks with their linkages with significant marketing efforts and 20% off sales, especially during the middle of the year and day-after-sales.
  - Many new purchases are released within two weeks after the original registration. Coordination with events like Dad's Day sales and Black Friday during their product testing or campaign execution would also increase the net-acquisition scale.
5. **Customers with Early Large Purchases Have Higher Lifetime Value :** Early large purchasers hold greater lifetime value. Generally, research indicates that guests who spend above-average-large amounts on either their first or second purchase tend to make higher volumes of moves and thereby create life payment behaviour.

- They end up giving a healthy 30% more than those who somehow start negotiating with smaller first purchases. Furthermore, realising that it is fruitful to bring up selling opportunities early in a customer's journey helps a lot if something goes beyond keeping the faith on future income.

1. ~15% of products (price  $\geq$  \$431.05) generate a large share of revenue. Focus promos here.

2. Regions with the highest repeat purchase counts:

Region	
South America	56
Europe	48
North America	43
Asia	40

3. Top 2 months for sales: [7 9]. Consider focusing holiday campaigns there.

4. Surges in signups correlate with discount/marketing periods. Marketing alignment recommended.

5. Customers with above-average first transaction often exhibit ~30% higher lifetime spend. Upsell early.