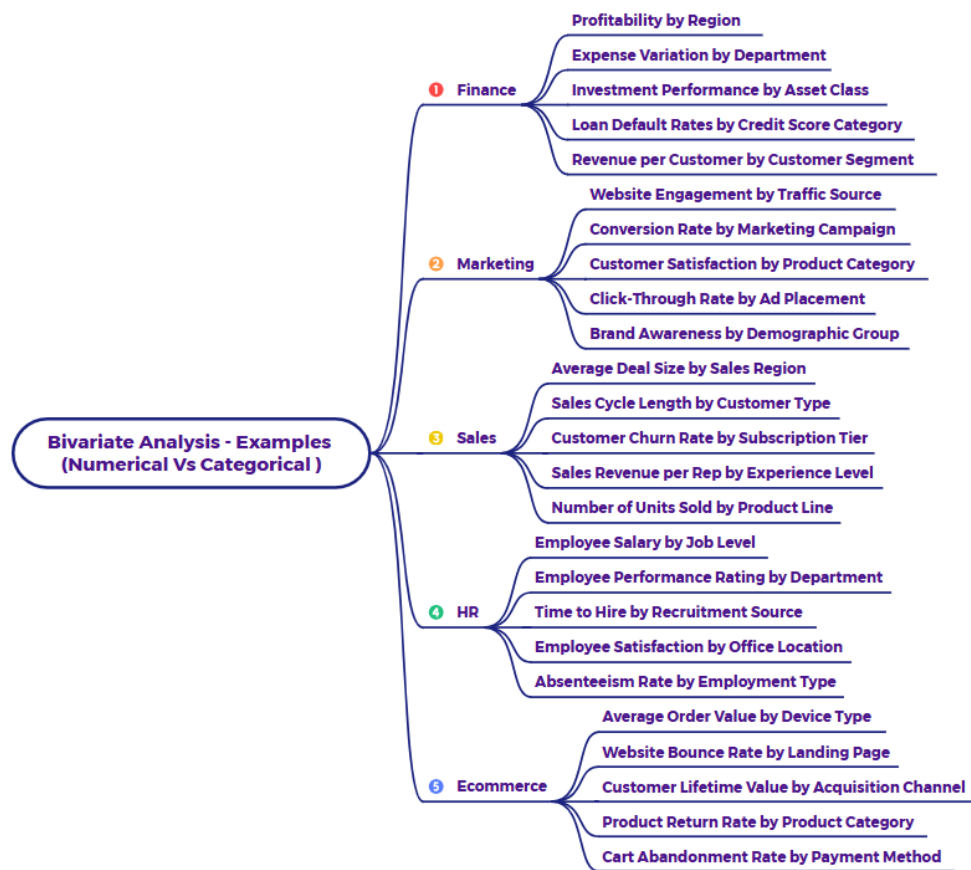


Types of Questions that can be answered by Bivariate analysis - Numerical Vs Categorical



1. Finance:

- **Profitability by Region:** Is there a significant difference in the average profit margin (numerical) across different geographical regions (categorical)?
- **Expense Variation by Department:** Do different departments (categorical) within the company have significantly different average monthly operating expenses (numerical)?
- **Investment Performance by Asset Class:** Does the average return on investment (numerical) vary significantly across different asset classes (categorical, e.g., stocks, bonds, real estate)?

- **Loan Default Rates by Credit Score Category:** Is there a difference in the average loan amount defaulted (numerical) among different credit score categories (categorical, e.g., Excellent, Good, Fair, Poor)?
- **Revenue per Customer by Customer Segment:** Is there a significant difference in the average revenue generated per customer (numerical) across various customer segments (categorical, e.g., Enterprise, SMB, Individual)?

2. Marketing:

- **Website Engagement by Traffic Source:** Does the average time spent on the website (numerical) differ significantly based on the traffic source (categorical, e.g., Organic Search, Paid Ads, Social Media)?
- **Conversion Rate by Marketing Campaign:** Is there a significant difference in the conversion rate (numerical, e.g., percentage of leads converted) across different marketing campaigns (categorical, e.g., Email Campaign A, Social Media Ad B)?
- **Customer Satisfaction by Product Category:** Does the average customer satisfaction score (numerical) vary significantly across different product categories (categorical)?
- **Click-Through Rate by Ad Placement:** Is there a significant difference in the click-through rate (numerical, e.g., percentage of impressions) for online advertisements based on their placement (categorical, e.g., Banner Ad Top, Sidebar Ad)?
- **Brand Awareness by Demographic Group:** Does the average brand awareness score (numerical) differ significantly across different demographic groups (categorical, e.g., Age Group, Gender)?

3. Sales:

- **Average Deal Size by Sales Region:** Is there a significant difference in the average value of closed deals (numerical) across different sales regions (categorical)?
- **Sales Cycle Length by Customer Type:** Does the average time it takes to close a deal (numerical) vary significantly depending on the type of customer (categorical, e.g., New Customer, Existing Customer)?
- **Customer Churn Rate by Subscription Tier:** Is there a significant difference in the customer churn rate (numerical, e.g., percentage of

customers lost) across different subscription tiers (categorical, e.g., Basic, Premium, Enterprise)?

- Sales Revenue per Rep by Experience Level: Does the average sales revenue generated per sales representative (numerical) differ significantly based on their experience level (categorical, e.g., Junior, Senior)?
- Number of Units Sold by Product Line: Is there a significant difference in the average number of units sold (numerical) across different product lines (categorical)?

4. HR (Human Resources):

- Employee Salary by Job Level: Is there a significant difference in the average salary (numerical) across different job levels (categorical, e.g., Entry-Level, Manager, Executive)?
- Employee Performance Rating by Department: Does the average employee performance rating (numerical) vary significantly across different departments (categorical)?
- Time to Hire by Recruitment Source: Is there a significant difference in the average time it takes to fill a position (numerical, e.g., in days) depending on the recruitment source (categorical, e.g., Internal Referral, Job Board)?
- Employee Satisfaction by Office Location: Does the average employee satisfaction score (numerical) differ significantly across different office locations (categorical)?
- Absenteeism Rate by Employment Type: Is there a significant difference in the average absenteeism rate (numerical, e.g., percentage of days missed) across different employment types (categorical, e.g., Full-time, Part-time, Contract)?

5. Ecommerce:

- Average Order Value by Device Type: Is there a significant difference in the average value of customer orders (numerical) based on the device used for purchase (categorical, e.g., Desktop, Mobile, Tablet)?

- Website Bounce Rate by Landing Page: Does the average bounce rate (numerical, e.g., percentage of single-page visits) differ significantly across different landing pages (categorical)?
- Customer Lifetime Value by Acquisition Channel: Is there a significant difference in the average customer lifetime value (numerical) based on how the customer was acquired (categorical, e.g., Paid Search, Social Media, Email Marketing)?
- Product Return Rate by Product Category: Does the average product return rate (numerical, e.g., percentage of items returned) vary significantly across different product categories (categorical, e.g., Apparel, Electronics, Home Goods)?
- Cart Abandonment Rate by Payment Method: Is there a significant difference in the cart abandonment rate (numerical, e.g., percentage of abandoned carts) based on the payment method selected (categorical, e.g., Credit Card, PayPal)?