

PROJECT

Course 2 – Data Management and Analysis with MS Excel

Project Title: KPMG Data Analysis using Excel

Video Link : <https://drive.google.com/file/d/1SJFZMDO9NotJ8asiIrc4iKi9abc0WKCb/view?usp=sharing>

Introduction :

This project aims to analyse customer demographics, transactions, and new customer data to provide insights into business performance and customer behaviour. The project consists of six tasks that involve data cleaning, data analysis, and visualization using Excel.

Dataset : [KPMG Final Project Dataset.xlsx - Google Sheets](#)

Task 1: Data Cleaning

Objective: Prepare the datasets for analysis by cleaning and correcting any inconsistencies.

Task 2: Customer Segmentation

Objective: Segment customers based on demographic and transaction data to identify key customer groups.

Task 3: Transaction Analysis

Objective: Analyse transaction data to identify trends and patterns.

Task 4: New Customer Insights

Objective: Analyse the new customer dataset to provide insights into potential new customer behaviour and value.

Task 5: Customer Lifetime Value (CLV) Analysis

Objective: Calculate and analyse the customer lifetime value to identify the most valuable customers.

Task 6: Executive Summary and Recommendations

Objective: Summarize findings and provide actionable recommendations for business strategies.

Dataset Description:

1. Customer Address Dataset:

Description: Contains information about customers' addresses and property valuation.

2. Customer Demographic Dataset:

Description: Contains demographic information about customers, including their personal details, job information, and purchase behaviour.

3. Transactions Dataset:

Description: Contains details of transactions made by customers, including product details and transaction dates.

4. New Customer List Dataset

Description: Contains information about potential new customers, including their personal details, job information, and potential value

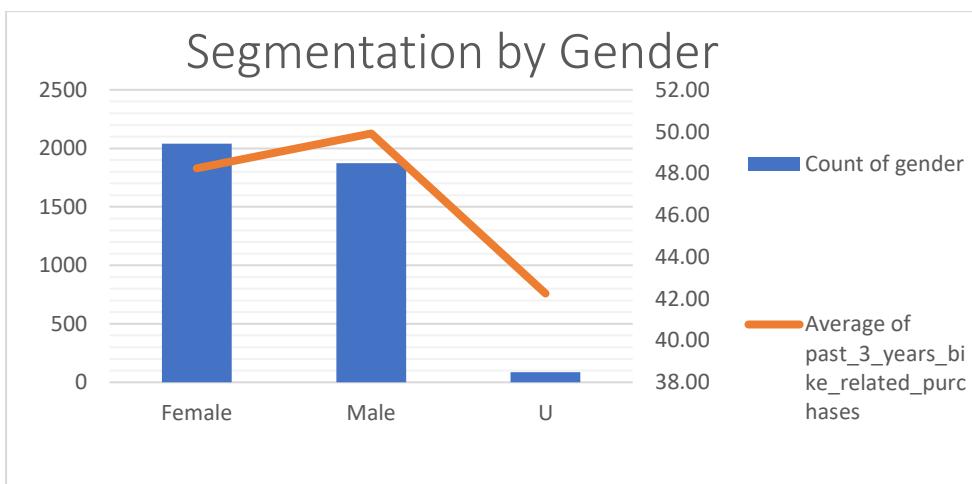
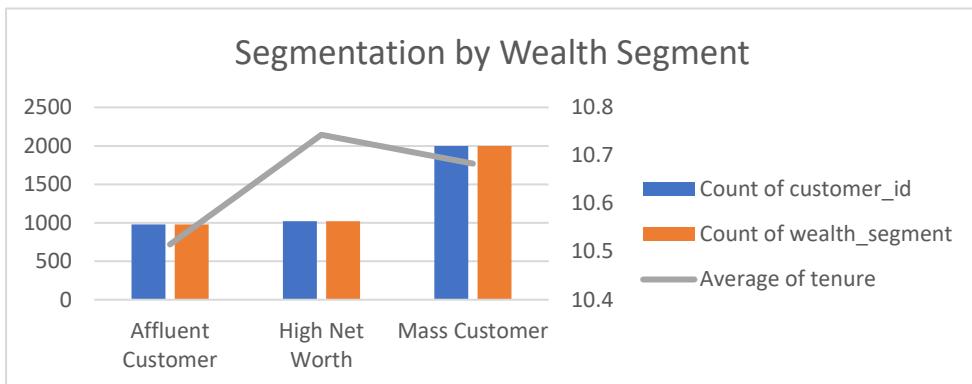
Task 1: Data Cleaning

Objective: Prepare the datasets for analysis by cleaning and correcting any inconsistencies.

- Removed Duplicate Records and ensured all state names are correctly formatted.
- Identified and corrected erroneous data entries and standardized the format for missing entries.
- Ensured transaction_date is in a consistent date format and removed records with missing or incomplete information.
- Standardized address formatting and ensured consistent gender representation and also corrected anomalies in job_title and job_industry_category.

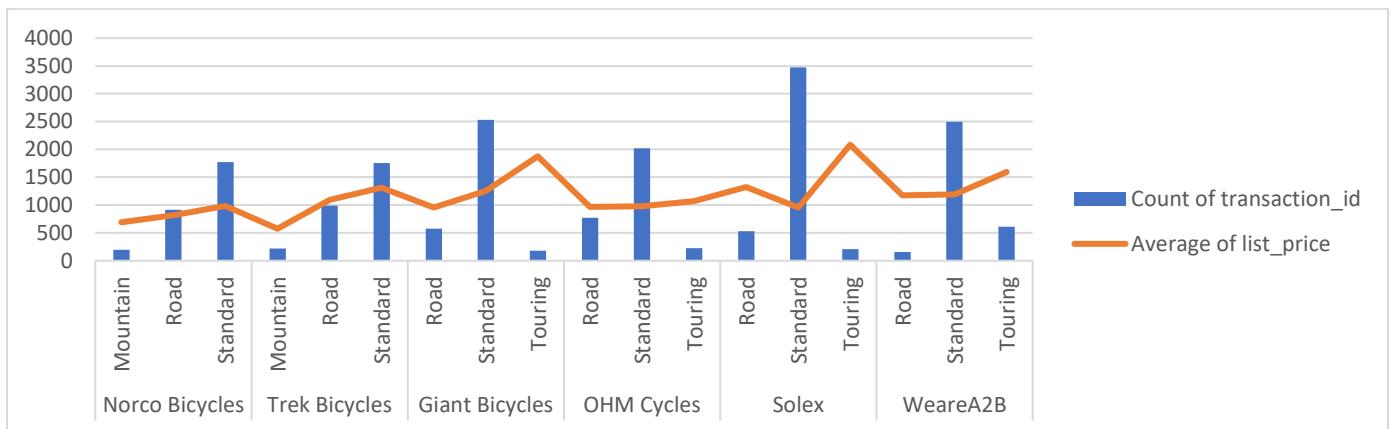
Task 2: Customer Segmentation

Objective: Segment customers based on demographic and transaction data to identify key customer groups.



Task 3: Transaction Analysis

Objective: Analyse transaction data to identify trends and patterns.

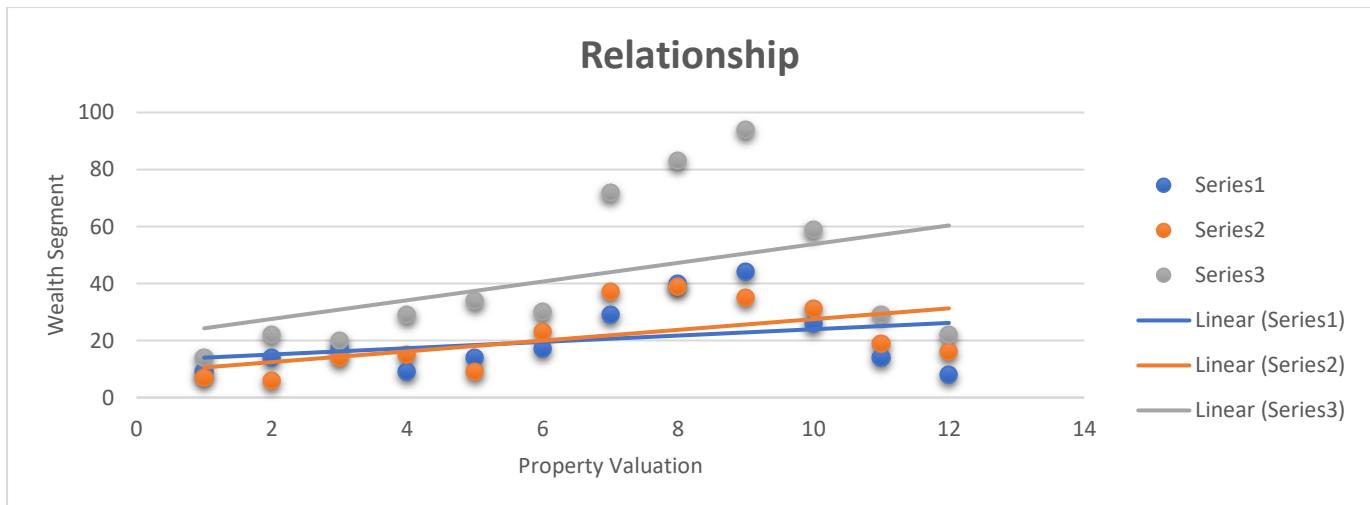
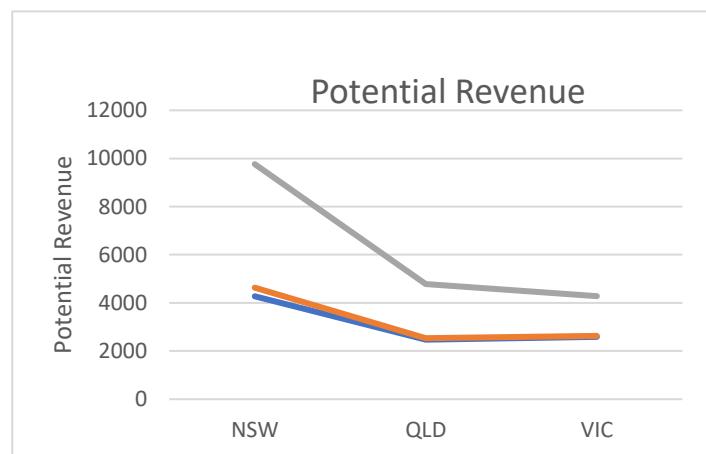
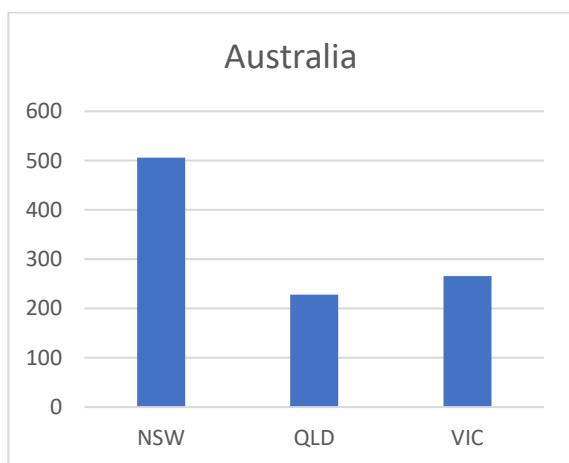
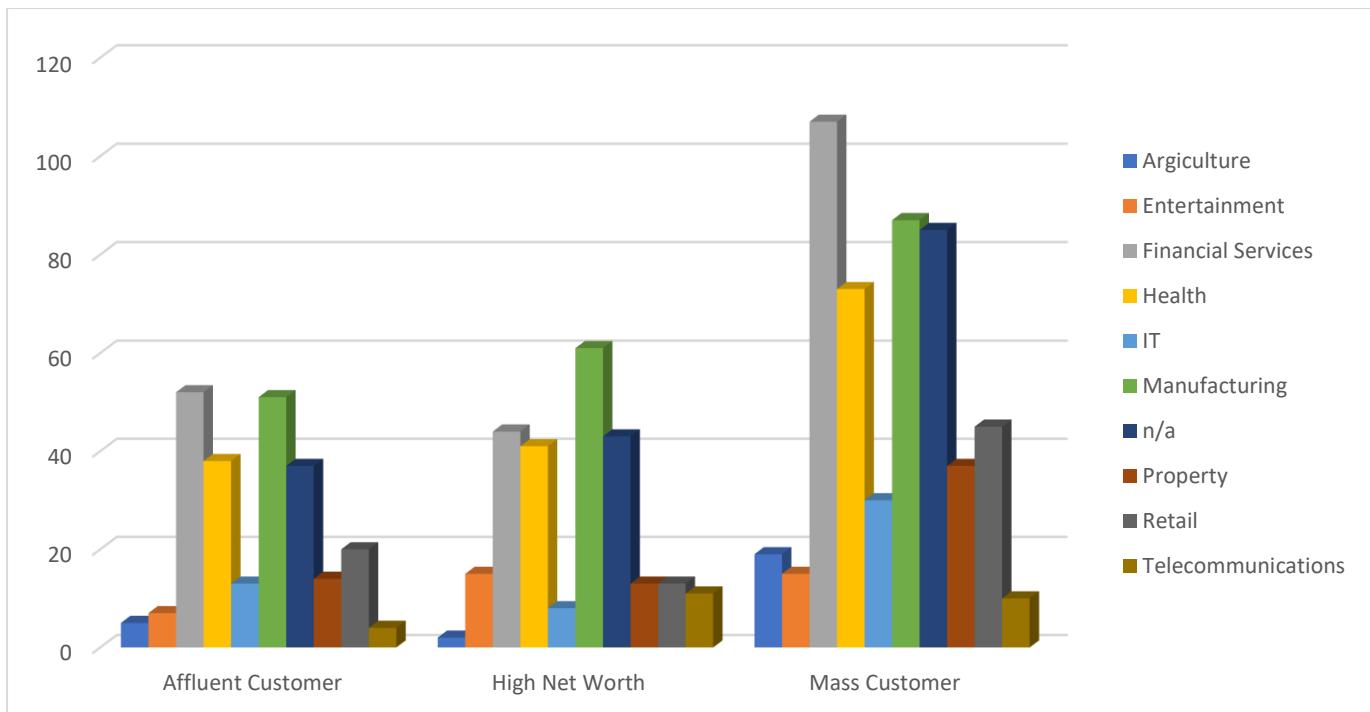


3.3.1 Identifying Top 10 Customers Based on Total Transaction Value

Customer ID	Sum of list_price
2183	₹ 19,071
1129	₹ 18,349
1597	₹ 18,053
941	₹ 17,898
2788	₹ 17,259
936	₹ 17,160
1887	₹ 17,134
1302	₹ 17,036
1140	₹ 16,199
2309	₹ 16,122

Task 4: New Customer Insights

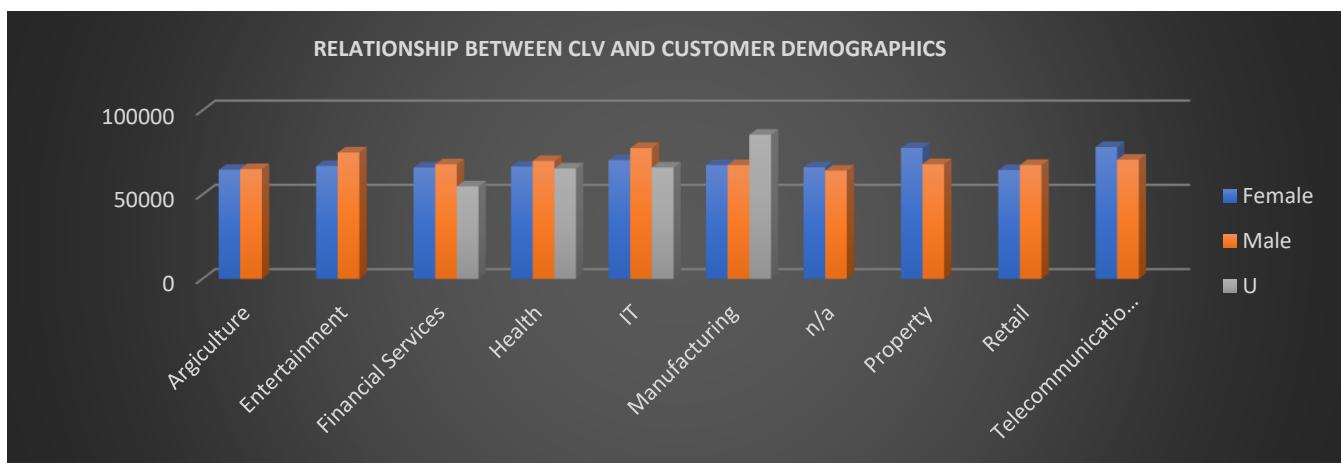
Objective: Analyse the new customer dataset to provide insights into potential new customer behaviour and value.



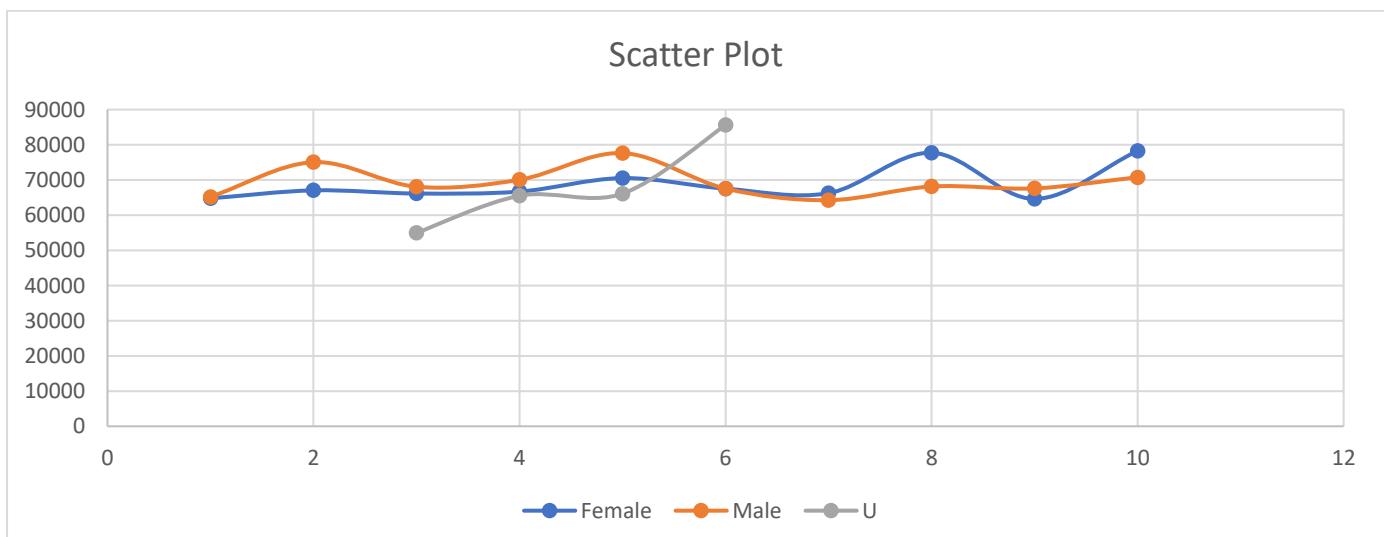
Task 5: Customer Lifetime Value (CLV) Analysis

Objective: Calculate and analyse the customer lifetime value to identify the most valuable customers.

Average CLV by wealth_segment.	
Row Labels	Average of Cutomer Lifetime Value(CLV)
Affluent Customer	66955
High Net Worth	67610
Mass Customer	68405
Overall Average	67847.243



Total Revenue	No.Of Purchases	APV
₹ 2,21,56,588.98	20000	1108
Total Number of Transactions	No. Of Unique Customers	Purchase Frequency (P)
20000	3494	5.724



Task 6: Executive Summary and Recommendations

1. Summary of Key Insights:



Customer Segment Analysis

Customer segmentation provides valuable insights into the distribution of different customer groups based on their financial status and industry involvement. The segmentation divides customers into three groups:

- A. Affluent Customers
- B. High Net Worth Customers
- C. Mass Customers

There are various Industries present, includes Agriculture, Entertainment, Financial Services, Health, IT, Manufacturing, N/A(Name of the industry is not mentioned but it can be useful for analysis), Property, Retail and Telecommunication.

- **Mass Customers** dominate in all industries and stands as largest customer segment with 2000 customers, particularly in **Financial Services, Manufacturing, and Health** sectors. This suggests that these industries attract a higher volume of general customers, likely due to their essential nature in day-to-day life and also because these 3 industries play a crucial role in individuals life for purpose of business and personals.
- **Affluent Customers and High Net Worth Customers** are more concentrated in **Manufacturing, Financial Services, and Health**, indicating a preference for industries that require strategic investment or financial management.
- **IT, Telecommunication, Agriculture and Entertainment** have relatively low customer volumes, particularly among affluent and high-net-worth individuals. This might suggest that these industries are not yet well penetrated or require tailored offerings to attract premium customers.

A. Predominant Industries Among Customers

• Financial Services

Customer Base: 188 Affluent Customers, 204 High Net Worth Customers, 382 Mass Customers.

Implications: The diverse wealth segments in this industry suggest opportunities for both high-end and mass-market products.

• Manufacturing

Customer Base: 224 Affluent Customers, 171 High Net Worth Customers, 404 Mass Customers.

Implications: High number of Mass Customers combined with significant Affluent and High Net Worth segments highlight a strong market for varied product offerings.

• Health Sector

Customer Base: 134 Affluent Customers, 155 High Net Worth Customers, 313 Mass Customers.

Implications: The significant number of High Net Worth and Mass Customers suggests a need for both premium and value-oriented products.

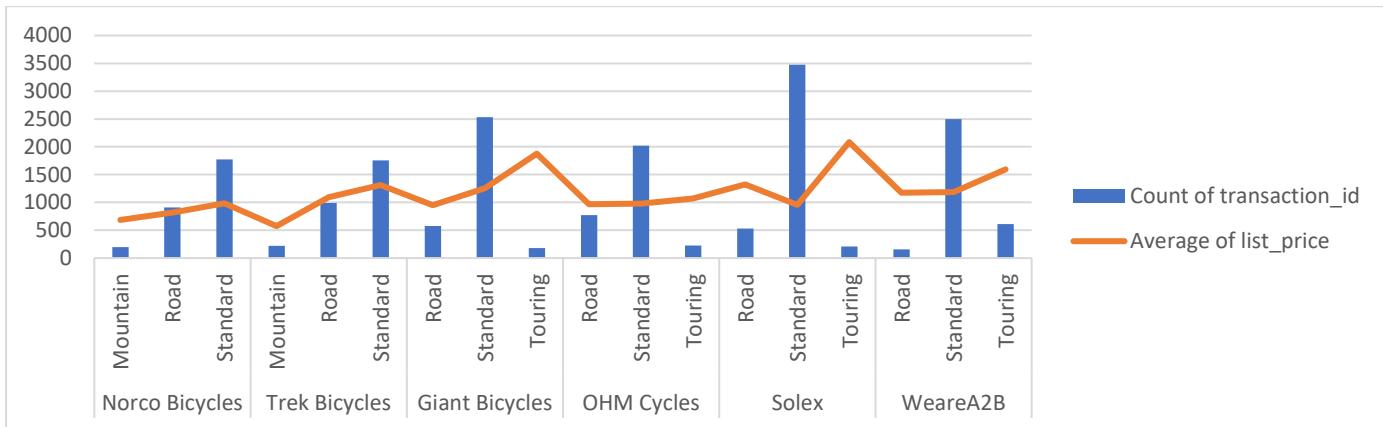
- The **n/a category** (customers without a specified sector) has a significant number of customers. This could indicate a potential gap in data collection or a segment that hasn't been categorized properly.

Transaction Analysis

Transaction Analysis provides a view of the financial performance and transaction trends over the year.



- Steady Revenue Growth:** The total revenue generated stands at **₹2,21,56,588.98**, demonstrating strong business performance.
- Number of Purchases:** There have been **20,000 purchases** recorded, with an **average purchase value (APV) of ₹1,108**, suggesting a moderate to high-value transaction model.
- Seasonal Transaction Trends:** The number of transactions fluctuates across the months, peaking in **July, August and October**, indicating potential seasonal demand or promotional effects driving higher sales.
- Profit and List Price Relationship:** While transaction volumes fluctuate, the **sum of the list price remains fairly consistent**, showing that pricing strategies are stable.
- Stable Profitability:** The sum of profit remains relatively **unchanged across months**, showing a consistent margin despite fluctuations in transaction volume.



Product Performance

- High-Performing Brands and Product Lines**

Transaction Counts: Higher sales volumes for certain brands like Solex, WeareA2B.

Average List Prices: High-priced products are among the best sellers in terms of revenue Contribution.

Less-priced products have more transactions because they are accessible to large customer base.

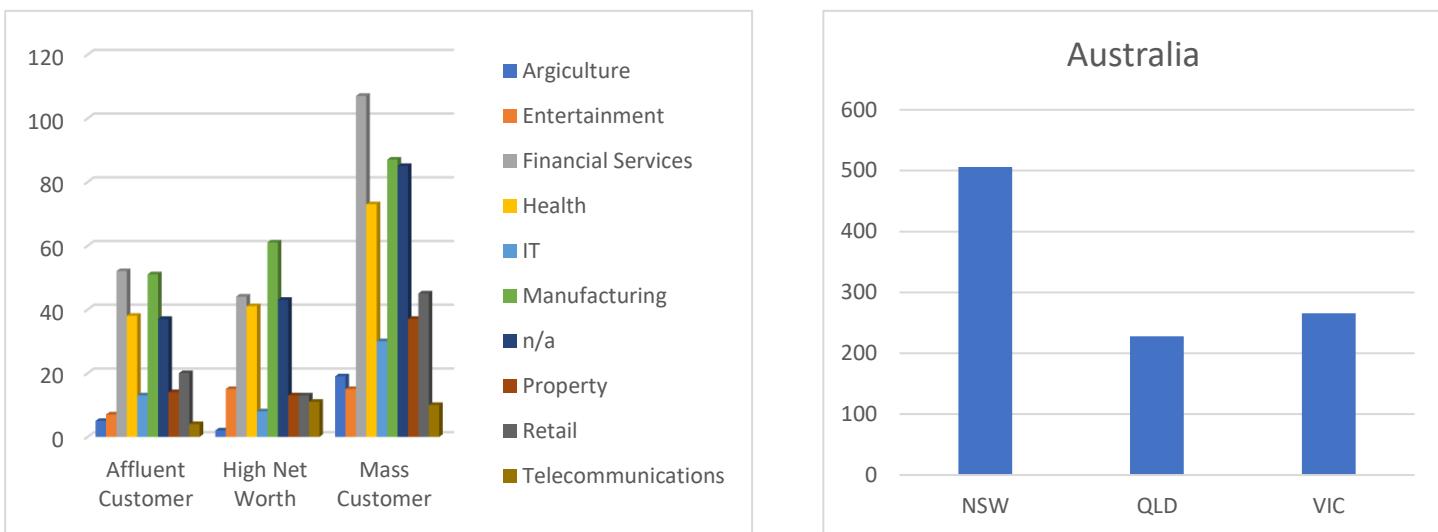
Customer Preferences: Indicates a willingness to invest in quality and premium features.

- Insight:** Both high-priced, low-volume products and low-priced, high-volume products play important roles in your sales strategy. Balancing the two can optimize overall revenue and meet diverse customer needs. Products with higher prices can still be popular, demonstrating that a segment of your customers values quality and premium features over lower costs.

These insights indicate a well-performing business model, but opportunities exist to optimize revenue during low-performing months through promotional campaigns and targeted offers.

New Customer Insights

Analysing new customer distribution helps identify key geographical areas for expansion and marketing focus.



Geographic Distribution of New Customers

Major Concentration in Certain States:

- **New South Wales (NSW):** The highest number of new customers come from NSW, overall **506**.
- **Queensland (QLD):** Has **228** new customers.
- **Victoria (VIC):** Has **266** new customers.
- **New South Wales (NSW) leads in new customer acquisitions,** with a significantly higher number of customers compared to Queensland (QLD) and Victoria (VIC). This suggests that NSW is currently the strongest market.
- **QLD and VIC have moderate customer acquisition rates,** indicating potential for growth if targeted marketing strategies are implemented.
- **Limited Expansion in Other Regions:**
If the business aims to scale further, exploring opportunities beyond these states could be beneficial.

Insights:

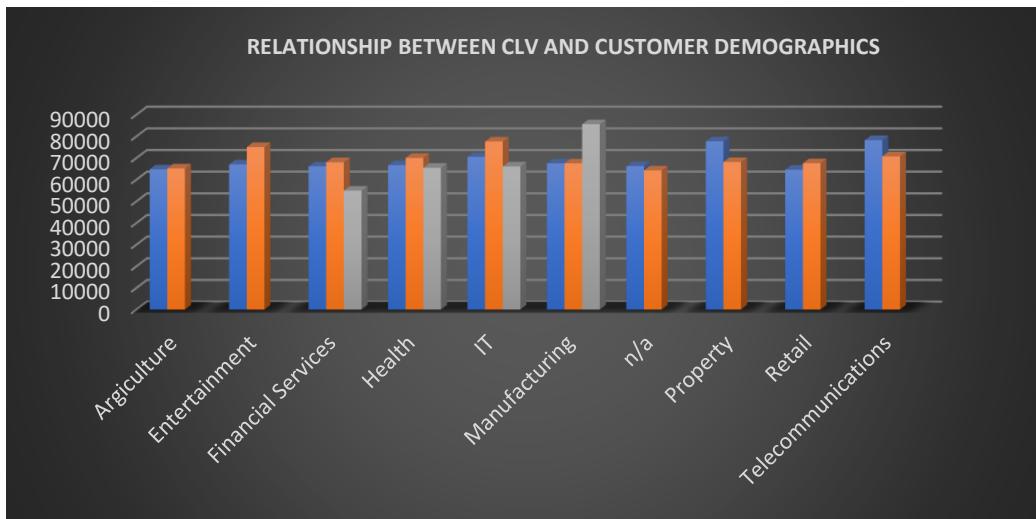
- **Financial Services and Manufacturing as Key Industries:**
High numbers of new customers across all wealth segments.
Potential for industry-specific marketing strategies.
- **Mass Customers Predominance:**
Majority in industries like Financial Services, Manufacturing and Health, indicating opportunities for volume sales.
- **High Engagement in Bike-Related Purchases:**
Average Purchases: New customers have made an average of **50 bike-related purchases** over the past three years.

These insights provide a solid foundation for developing strategic initiatives aimed at increasing market share, enhancing customer satisfaction, and driving overall business growth. By focusing on the areas and customer segments identified, we can create targeted strategies that are more likely to yield positive results.

Customer Lifetime Value (CLV) Analysis

Understanding **Customer Lifetime Value (CLV)** is critical for identifying the most valuable customer segments for churn prediction and business development targeting customers retention.

Average CLV by wealth_segment.	
Row Labels	Average of Cutomer Lifetime Value(CLV)
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- High CLV Across All Segments:** The average CLV across all customer segments is ₹67,847.24, suggesting strong customer retention and spending.
- Affluent Customers have the highest CLV (₹66,955), followed by High Net Worth Customers (₹67,610), and Mass Customers (₹68,405).** This suggests that even mass customers contribute significantly to long-term revenue.
- Strong Relationship Between CLV and Financial Services & Manufacturing:** Customers involved in Financial Services and Manufacturing tend to have higher CLV, implying these industries drive long-term business value.
- Balanced CLV Between Genders:** The relationship between CLV and customer demographics shows consistent spending habits across genders, indicating no major disparity in customer value based on gender.

These insights suggest that customer retention strategies should focus on maintaining loyalty among high-value customers, while also nurturing mass customers to increase long-term spending potential.

One of the most important findings in our analysis is the high revenue contribution from our top customers. Our top 10 customers alone contribute a significant portion of total revenue, with each spending between ₹16,122 and ₹19,071. This highlights the importance of customer retention, as losing even a small number of these high-value customers could have a major impact on revenue. Ensuring their continued satisfaction should be a priority, and offering them exclusive benefits, personalized services, and VIP treatment will encourage loyalty.

Beyond our top customers, there is also an opportunity to increase spending among mass customers. Some customers within the mass segment show consistent purchasing behaviour and high property valuations, which suggests that they could be encouraged to spend more over time. Providing personalized experiences, offering installment plans, and creating targeted promotions could encourage these customers to move into a higher spending category. By focusing on customer retention strategies, upselling opportunities, and personalized engagement, we can significantly improve customer lifetime value and increase long-term profitability.

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2. Recommendations for Business Growth & Optimization

Based on the data insights, the following recommendations will help optimize marketing efforts, expand business reach, and refine product offerings to drive higher revenue and customer retention.

1. Marketing Strategies for High-Value Customer Segments

To effectively target Affluent Customers and High Net Worth (HNW) Customers(considered as High Value Customers in this case), marketing efforts should focus on personalization, premium offerings, and value-driven engagement.

A. Personalized Interaction for High-Value Customers

- **VIP Loyalty Programs:** Offer exclusive membership tiers with benefits like personalized financial consultations, early access to new products, and priority service.
- **Custom Discounts & Bundling:** Use customer segmentation data to provide tailored discounts and bundle relevant products for Financial Services and Manufacturing customers, where high-value clients are concentrated.
- **Personalized Communication:** Leverage AI-driven CRM systems to send tailored emails/SMS with personalized product recommendations.
- **Include Unique Offers :** Including 1+1 free offer else If purchased worth Rs. 3000 can get Rs.1000 off. These such Offers can attract the Customers to avail the discount, which can directly increase sales.

B. Premium & Exclusive Offerings

- **Luxury & Limited-Edition Products:** Introduce high-end, premium product variations catering specifically to HNW customers where HNW category customers prefer these type of Personalized products.
- **Invitation-Only Events:** Organize exclusive networking events or webinars featuring industry leaders in Finance & Manufacturing.

C. Digital Marketing Focus

- **High-Value Customer Retargeting:** Use digital platforms (LinkedIn, Google and Mobile Ads) to retarget website visitors who showed interest in premium offerings.
- **Social Proof & Influencer Marketing:** Partner with influencers and financial experts to boost credibility in the finance and manufacturing sectors.
- **Include Relevant Customer purchases:** If a customer purchases a mobile phone then along that they shall be given the products bought together with recent purchase product, where the customer will more tend to purchase them.
- **Seasonal Offers:** Especially in the festive season customers tend to shop and purchase products, advertising at that particular time and providing best deals can prefer customer to shop the product which can eventually increase the sales and revenue.

D. Banners and Posters: In highly populated / Busy area where we can find target customers, we shall present banners or posters such that the product get advertised and customers get familiarized with the product

These strategies will enhance engagement with high-value customers, increasing repeat purchases and overall CLV.

2. Business Expansion Opportunities Based on Location Analysis

To drive customer acquisition, the business should focus on under-penetrated regions and optimize marketing for high-growth locations.

A. Focused Expansion in Growth States

- **New South Wales (NSW):** Since NSW already has high customer acquisition, invest in localized promotions, regional partnerships, and exclusive customer events to solidify dominance.

- **Queensland (QLD) & Victoria (VIC):** Since these states show moderate acquisition rates, launch:
 - Location-Specific Campaigns (e.g., “Exclusive VIC Customer Offers”)
 - Strategic Partnerships with local businesses
 - Physical or Digital Events to boost brand awareness

B. Test Market Entry in Underserved Regions

- **Identify regions with untapped customer potential** (e.g., Western Australia & South Australia).
- **Pilot targeted campaigns** to test demand in these areas before full expansion.

Focusing on these areas ensures maximum Return of Investment (ROI) on marketing spend while expanding customer reach.

3. Product Offering Enhancements Based on Transaction Insights

Transaction data reveals opportunities to **improve product pricing, bundling, and seasonal promotions**.

A. Optimize Seasonal Pricing & Promotions

- Since transactions peak in August & October, introduce time-sensitive promotions leading up to these months (e.g., early-bird discounts in July).
- Identify weaker months and launch exclusive deals during these periods to stabilize revenue.

B. Bundled Offers for Popular Segments

- Offer bundled packages for customers in Finance & Manufacturing, as they show high engagement.
- Create tiered pricing structures (e.g., “Essential Package” vs. “Premium Package”) to encourage upgrades to higher-value purchases.

C. Improve Product Assortment

- Analyse top-performing products and introduce variant models catering to different price points.
- Identify low-selling products and either discontinue or reposition them for niche customer groups.

By refining the product mix and aligning it with customer transaction behaviour, the company can increase revenue while improving customer satisfaction.

Conclusion

By implementing these strategies, the business can:

- Enhance customer retention among high-value segments
- Expand market reach in key geographic regions
- Optimize revenue through data-driven product enhancements