PROJECT A | MARKETING & RETAIL ANALYTICS

RFM ANALYSIS
Automobile Parts Manufacturer

SHAISHAV MERCHANT

AGENDA

RFM Analysis

EXECUTIVE SUMMARY

This executive summary provides an overview of the customer segmentation project, leveraging RFM analysis to identify key customer segments. It outlines strategic actions aimed at enhancing customer retention, engagement, and revenue, based on detailed analysis of customer behavior.

EXECUTIVE SUMMARY

- **Problem Overview:** The project aimed to analyze customer purchasing behavior for an automobile parts manufacturer, identifying underlying patterns to improve marketing strategies and customer retention.

- **Objectives:**
  - Segment customers based on Recency, Frequency, and Monetary (RFM) analysis.
  - Identify key customer groups for targeted marketing efforts.
  - Recommend actions to enhance customer engagement and retention.

- **Solution Approach:**
  - Conducted Exploratory Data Analysis (EDA) using Python to identify trends.
  - Performed RFM analysis using KNIME to score and segment customers.
  - Segmented customers into categories: Best Customers, Loyal Customers, New Customers, At Risk of Churning, and Lost Customers.

- **Customers Segments:** Key customer segments were identified, including Best, Lost, Loyal, New, and At Risk of Churning. Tailored strategies were recommended, such as personalized loyalty programs, targeted incentives, re-engagement campaigns, and onboarding efforts to enhance engagement, retain value, and prevent customer churn across these segments.

- **Further Analysis:** Suggested additional segmentation by geographic distribution, product line, and deal size to refine marketing strategies and maximize revenue opportunities.

Conclusion:

Using this project, we identified actionable insights to enhance customer retention, engagement, and revenue, with recommendations tailored to each customer segment.

BUSINESS PROBLEM OVERVIEW & SOLUTION APPROACH

This project analyzes customer purchasing behavior for an automobile parts manufacturer using transaction data. By conducting EDA in Python and RFM analysis in KNIME, we segment customers to identify key groups and prioritize marketing efforts, ultimately enhancing customer retention and targeting top customers effectively.

PROBLEM OVERVIEW

Context

The project focuses on an automobile parts manufacturing company that has collected transactional data over three years. The company lacks an in-house data science team and has engaged a consultant to analyze customer purchasing behavior. The goal is to uncover underlying buying patterns, segment customers effectively, and provide actionable insights that can inform targeted marketing strategies.

Objective

1. Analyze customer transaction data to identify purchasing trends.

2. Segment customers based on their purchasing behavior using RFM analysis.

3. Develop strategies for targeted marketing and customer retention.

4. Identify top customers in each segment to prioritize engagement efforts.

SOLUTION APPROACH

The solution approach involves a detailed analysis of customer transaction data, utilizing Exploratory Data Analysis (EDA) for initial insights, followed by RFM analysis to segment customers based on their Recency, Frequency, and Monetary value. The approach concludes with identifying the top 5 customers in each segment for targeted marketing efforts.

EDA (Exploratory Data Analysis) using Python:

- Perform data cleaning and preparation. Analyze the distribution of key variables (e.g., sales, frequency, recency).Identify trends and patterns in customer purchasing behavior. Visualize relationships between variables to uncover insights.

RFM Analysis using KNIME:

- Calculate Recency, Frequency, and Monetary values for each customer. Assign RFM scores to categorize customers based on their engagement levels. Use KNIME's Rule Engine to segment customers effectively.

Creating Customer Segments using RFM Score using KNIME:

- Segment customers into groups: Best Customers, Loyal Customers, New Customers, At Risk of Churning, Lost Customers, and Other Customers. Define rules to ensure non-overlapping, meaningful segments.

Identifying Top 5 Customers for Each Segment:

- Rank customers within each segment based on their monetary value. Identify the top 5 customers in each segment for focused marketing and retention strategies. Provide insights on why these customers were selected and how they can be engaged.

DATA OVERVIEW

The Data Overview section provides a summary of the dataset used for analysis, highlighting its structure, key fields, and the absence of missing or duplicate values. It sets the foundation for exploring customer behavior and conducting RFM analysis by ensuring data integrity and relevance.

DATA OVERVIEW

Field Name	Data Type	Description
ORDERNUMBER	Int64	Unique identifier for each order.
ORDERDATE	Datetime	Date when the order was placed.
CUSTOMERNAME	Object	Name of the customer who placed the order.
SALES	Float64	Total sales value for the order.
QUANTITYORDERED	Int64	Number of units ordered.
PRICEEACH	Float64	Price per unit of the product.
PRODUCTCODE	Object	Code identifying the product.
PRODUCTLINE	Object	Category to which the product belongs.
DEALSIZE	Object	Size of the deal (e.g., Small, Medium, Large).
STATUS	Object	Current status of the order (e.g., Shipped).
COUNTRY	Object	Country where the customer is located.
DAYS_SINCE_LASTORDER	Int64	Days since the customer's last order.
MSRP	Float64	Manufacturer's Suggested Retail Price.
ORDERLINENUMBER	Int64	Unique line reference for each order.
PHONE	Object	Customer's Phone Number
ADDRESSLINE1	Object	Address
CITY	Object	City of the customer
POSTALCODE	Object	Postal Code
CONTACTLASTNAME	Object	Last Name of Customer's Contact
CONTACTFIRSTNAME	Object	First Name of Customer's Contact

Dataset Information:

Key Insights:

- **Shape:** The dataset contains 2,747 rows and 20 columns, capturing comprehensive order and customer details.

- **Column Distribution:** Key fields include ORDERNUMBER, CUSTOMERNAME, SALES, ORDERDATE, DAYS_SINCE_LASTORDER, COUNTRY, STATUS, DEALSIZE, among others.

- **Unique Counts:** There are 89 unique CUSTOMERNAME and 298 unique ORDERNUMBER.

- **No Missing or Duplicate Values:** The dataset is complete, with no missing or duplicate values across any columns, preserving the integrity of the data.

Conclusion:

The dataset is well-structured and clean, providing a solid foundation for detailed exploratory data analysis and RFM-based customer segmentation. This will enable accurate insights into customer behavior and effective strategy development.

RECORDS	COLUMNS	DATA TYPE
2,747	20	float64(3), int64(4), object(12), datetime64(1)

EXPLORATORY DATA ANALYSIS (EDA)

EDA (Exploratory Data Analysis) will reveal trends and key features of the dataset through univariate and bivariate analysis, providing a deeper understanding of the underlying patterns and relationships within the data.

EDA INSIGHTS & KEY FINDINGS

Customer Behavior:

- Significant gaps in Days Since Last Order indicate potential churn risks, especially for customers with long periods between purchases.
- Classic Cars and Vintage Cars are the highest revenue-generating product lines, while others like Trains serve niche markets.
- Large deals contribute disproportionately to sales, though Medium deals are more frequent, highlighting the importance of balancing high-value transactions with volume.

Time Series Analysis:

- Year-over-year growth is observed, indicating successful customer acquisition and market penetration.
- Sales show clear seasonality, with specific months peaking, likely due to industry trends or holiday seasons, guiding future promotional strategies.

Geographical Insights:

- The USA is the dominant market, with significant sales and customer counts, followed by key European markets like Germany and France.
- Potential for growth in underrepresented regions, as identified by customer count and sales distribution.

Deal Size and Sales:

- High variability within Large deals suggests the importance of targeted strategies for these customers.
- Medium deal sizes are most common, but Small deals, while lower in volume, contribute consistently to sales.

RFM Analysis:

Using the insights gathered from EDA we will continue to do the RFM analysis using KNIME.

Data Filtering:

For RFM Analysis we will include data with Shipped, Resolved, and In Process statuses because they represent completed or actively progressing orders, reflecting actual customer behavior. Other statuses like Cancelled or On Hold were excluded as they do not contribute to meaningful sales or customer engagement analysis.

UNIVARIATE ANALYSIS — NUMERICAL COLUMNS
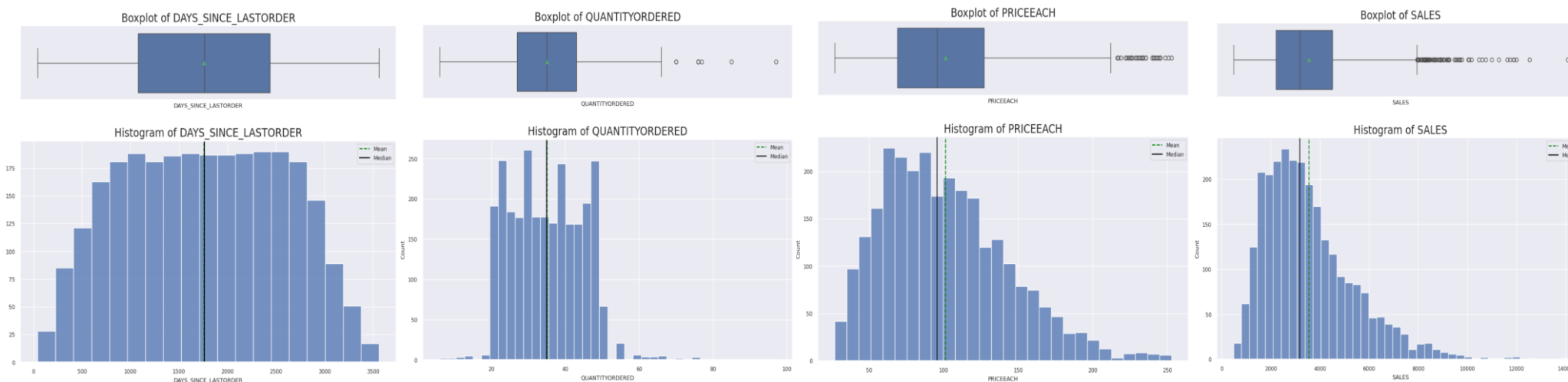
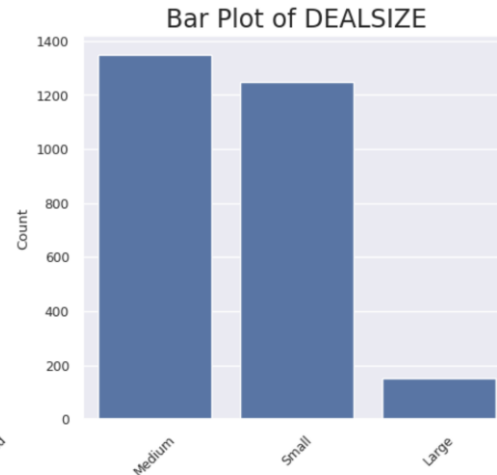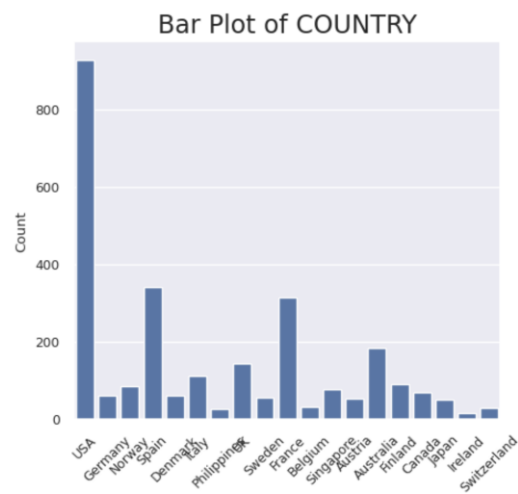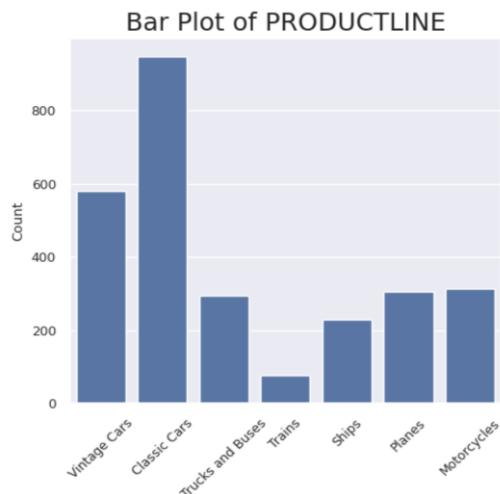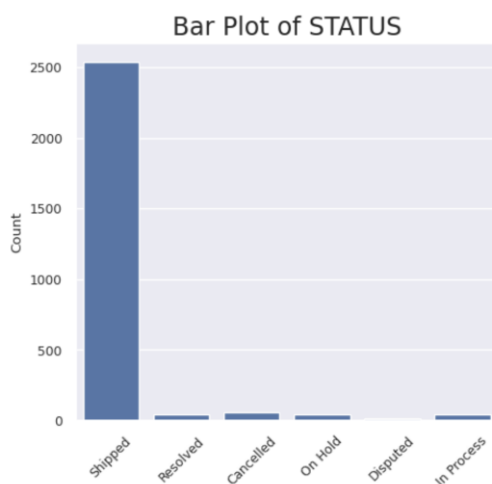| DAYS_SINCE_LASTORDER	QUANTITYORDERED	PRICEEACH	SALES
Key Insights: • 1,139 unique, Range: 42-3,562 days, Mean: 1,757 days, Median: 1,761 days • Long gaps between orders suggest potential churn risk.	**Key Insights:** • 82 unique, Range: 6-97 units, Mean: 35 units, Median: 35 units • Orders typically cluster around 35 units, showing moderate order sizes.	**Key Insights:** • 276 unique, Range: $26.8 and $252.87, Mean: $101.10, Median: $95.55 • Pricing closely follows MSRP, indicating consistent pricing strategies.	**Key Insights:** • 2,182 unique, Range: $482.13-$14,082.80, Mean: $3,553.05, Median: $3,184.80 • High variability in sales, with both moderate and high-value transactions contributing to revenue.

STATUS	PRODUCTLINE	COUNTRY	DEALSIZE
Key Insights: • 6 Unique values - Shipped, Cancelled, On Hold, Disputed, In Process, and Resolved • 92.5% of orders are with Status Shipped, indicating a high rate of order completion. • The majority of orders are successfully completed, indicating efficient order fulfillment.	**Key Insights:** • 7 unique values - Classic Cars, Motorcycles, Planes, Ships, Trains, Trucks and Buses & Vintage Cars. • 'Classic Cars' is the top product line with 34.5% of order share and likely a key revenue driver. • Less frequent product lines like 'Trains' and 'Ships' may represent niche markets or opportunities for targeted marketing.	**Key Insights:** • 19 unique values e.g., USA, Germany, France, UK, Spain etc. • The USA is the largest market, with a third of all orders. • Significant presence in Europe (Germany, France, UK), indicating strong international operations. • Potential growth opportunities in less represented regions.	**Key Insights:** • 3 unique values, Small, Medium and Large. • Medium-sized deals dominate with 49.1% od orders, balanced approach between high-volume and high-value transactions. • Small deals are significant, suggesting a healthy volume of lower-value transactions. • Large deals, while less frequent, could be crucial for high revenue spikes.

BIVARIATE ANALYSIS — NUMERICAL TO NUMERICAL

Sales vs. Quantity Ordered

Sales vs. Days Since Last Order

SALES vs ORDEREDQUANTITY	SALES vs DAYS_SINCE_LASTORDER
Key Insights: • Correlation between Sales and Quantity Ordered: 0.5534. • Positive correlation—more units ordered generally lead to higher sales. • Variability suggests PRICEEACH influences sales for similar quantities.	**Key Insights:** • Correlation between Days Since Last Order and Sales: -0.3343. • No strong correlation—sales occur across all ranges of days since the last order. • High sales cluster for long gaps, indicating some high-value customers purchase infrequently.

BIVARIATE ANALYSIS – CATEGORICAL TO NUMERICAL

Sales Distribution Across Product Lines

Sales Distribution Across Deal Sizes

| SALES vs PRODUCTLINE	SALES vs DEALSIZE
Key Insights: • Classic Cars and Vintage Cars generate the highest sales, indicating they are key revenue drivers. • Other product lines like Trains and Ships show lower sales, suggesting niche markets with potential for targeted growth.	**Key Insights:** • Large deals contribute significantly more to total sales compared to Small and Medium deals, reflecting the importance of high-value transactions. • The wide sales distribution within Large deals indicates variability in high-value customer purchases.

BIVARIATE ANALYSIS – CUSTOMERS

Customer Count by Year

Customer Count by COUNTRY

Customer Count by PRODUCTLINE

Customer Count by DEALSIZE
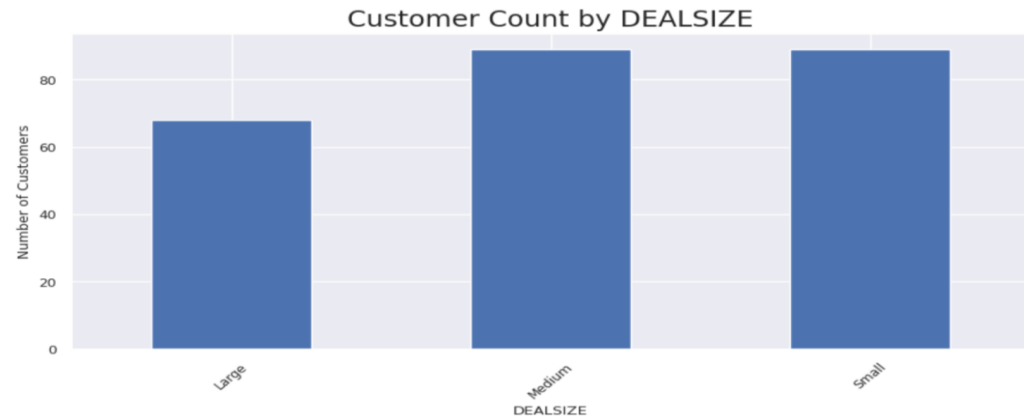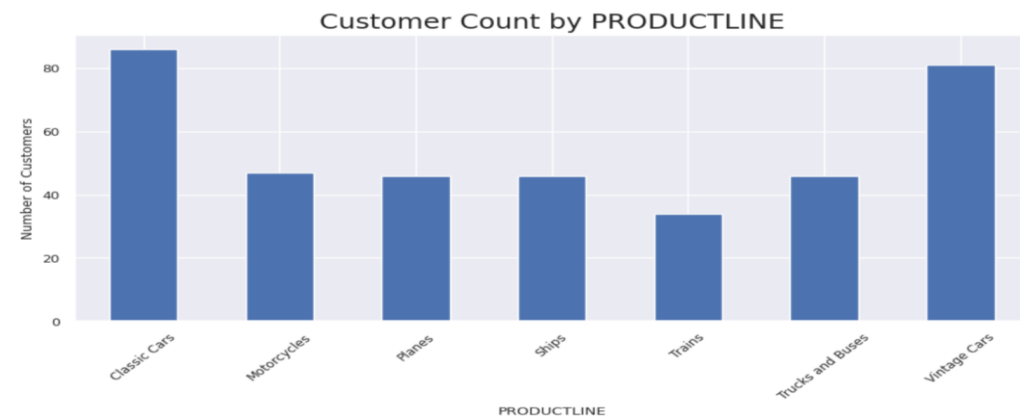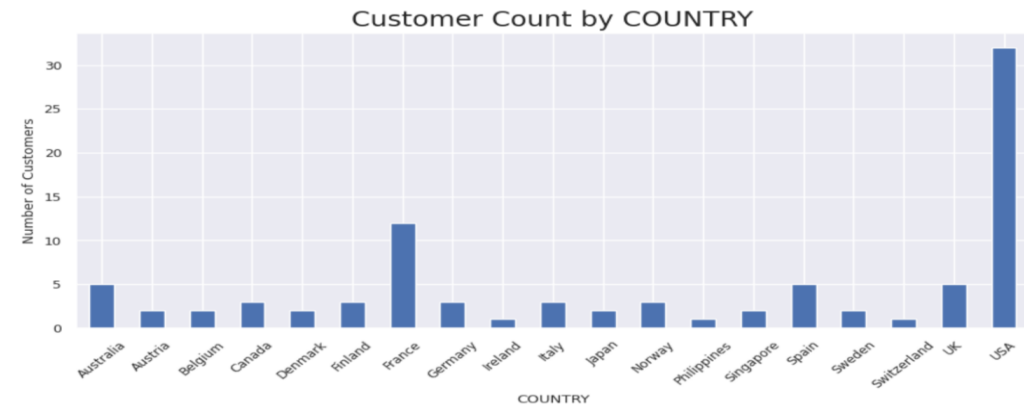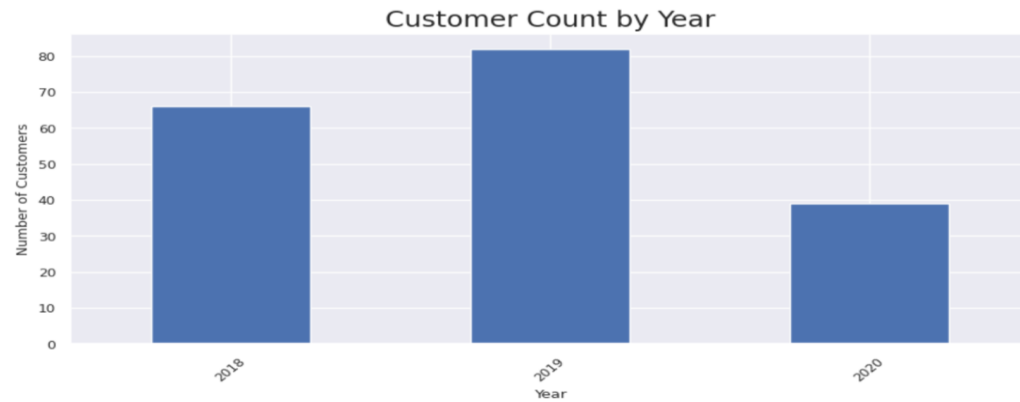
Customer Count

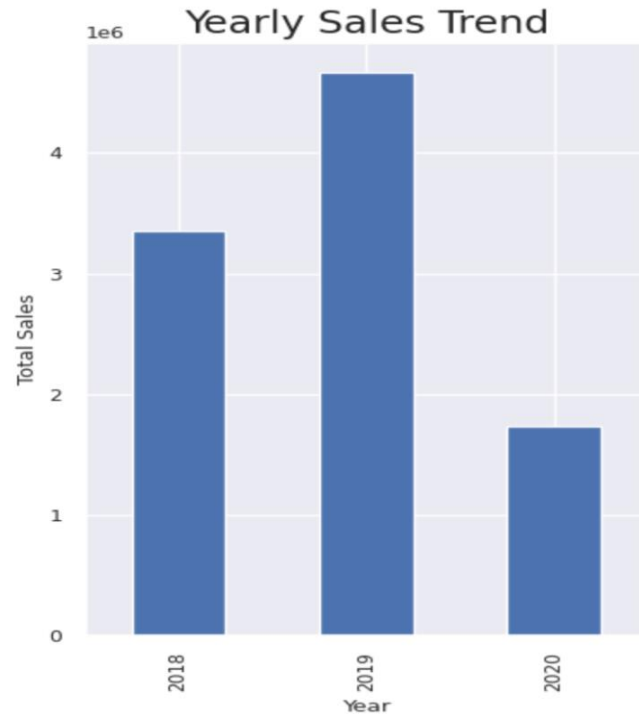**Key Insights:**
- Customer count has steadily increased from 2018 tol 2019, indicating successful customer acquisition.
- The USA leads in customer count, underscoring its significance as the primary market.
- Classic Cars has the highest customer count, aligning with its sales dominance.
- Medium deal sizes attract the most customers, indicating a preference for moderate-sized purchases.

TIME-SERIES ANALYSIS

Time-Series Analysis with Yearly, Quarterly and Monthly Trends

Key Insights:

- Sales show increasing trend from 2018 to 2019. Lower Sales in 2020 appears to be due to limited data availability.
- Sales or customer activity shows a clear seasonality, with highest sales in November, likely corresponding to industry-specific high-demand periods or holiday seasons.
- Months June to September exhibit consistently lower activity, which may indicate off-peak periods where targeted promotions or discounts could boost sales.

RFM ANALYSIS

RFM Analysis is a data-driven method used to segment customers based on their purchasing behavior, focusing on Recency (how recently they bought), Frequency (how often they buy), and Monetary value (how much they spend). It helps businesses identify key customer segments for targeted marketing and retention strategies.

R | F | M

Unlocking Customer Insights with the power of RFM Analysis

1. **Recency:** Segments customers based on the time since their last purchase, helping businesses identify active, recently engaged customers versus those who may be at risk of churning due to inactivity.

2. **Frequency:** Measures how often a customer makes purchases within a given period, allowing businesses to distinguish between highly loyal customers and those who shop infrequently, guiding retention strategies.

3. **Monetary:** Evaluates the total amount spent by customers, identifying high-value customers who contribute significantly to revenue versus lower spenders, helping prioritize marketing and service efforts.

Interpreting RFM Analysis

RFM Score:
The RFM Score is a composite metric derived from Recency, Frequency, and Monetary values, typically assigned on a scale (e.g., 1 to 4). Each customer receives a three-digit score (e.g., 344), where each digit represents their rank in Recency, Frequency, and Monetary categories. This score helps businesses quickly assess and categorize customer behavior.

Customer Segmentation:
Customer Segmentation uses RFM scores to group customers into categories like "Best" or "At Risk," enabling targeted marketing and personalized strategies that maximize engagement and retention.
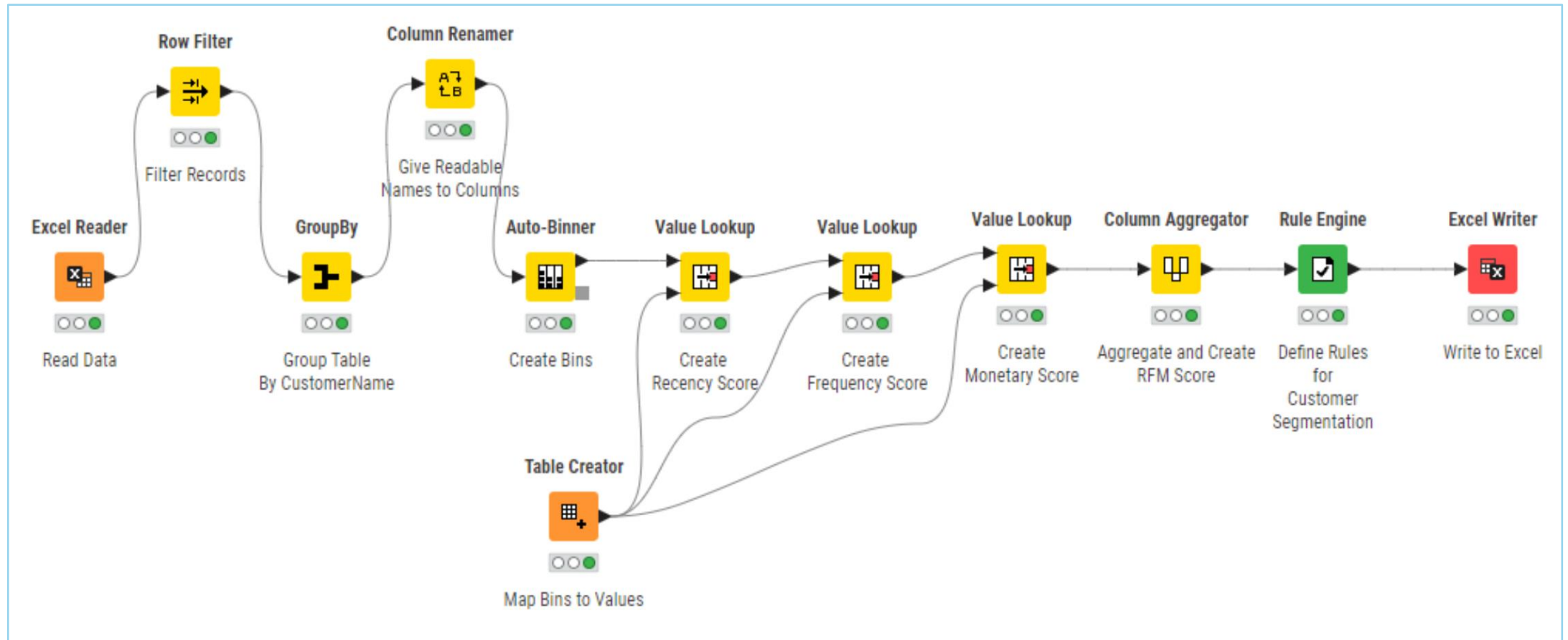
RFM − PARAMETERS & ASSUMPTIONS

Recency:

- **Parameter:** Days since the last purchase (*DAYS_SINCE_LASTORDER).*
- **Assumption:** Customers with recent purchases (low Recency score) are more engaged and valuable.

Monetary:

- **Parameter:** Total spending across all purchases (SUM of SALES).
- **Assumption:** Higher spending (high Monetary score) indicates a more valuable customer in terms of revenue contribution.

Customer Segmentation:

- **Parameter:** Customers are segmented based on combined RFM scores.
- **Assumption:** Different RFM score combinations correlate with distinct customer behaviors, allowing for tailored marketing strategies.

Frequency:

- **Parameter:** Number of unique purchases made (Unique ORDERNUMBER).
- **Assumption:** Customers who purchase more frequently (high Frequency score) demonstrate loyalty and ongoing interest.

Scoring Scale:

- **Parameter:** Scores range from 1 to 4 for each RFM component.
- **Assumption:** A higher score represents more desirable customer behavior (e.g., more recent, frequent, or higher spending).

Status Exclusion:

- **Parameter:** Only orders with statuses such as "Shipped," "Resolved," and "In Process" were included.
- **Assumption:** These statuses reflect completed or active transactions, providing a true picture of customer behavior.

Segmentation Rules

Best Customers: High Recency, Frequency and Monetary values; "444".

At a Risk of Churning: Low Recency, Low to Moderate Frequency; "21*" or "22*" or "23*".

Loyal Customers: High to Moderate Recency and Frequency; "44*" or "34*" or "24*", except "444" and "2*1".

Lost Customers: Low Recency and Frequency; "11*" or "12*".

RFM – KNIME WORKFLOW & OUTPUT

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Anna's Decorations, Ltd	131	4	153996.13	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Australian Collectors, Co.	229	5	200995.41	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Diecast Classics Inc.	228	4	122138.14	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Euro Shopping Channel	50	24	830461.56	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers

RFM – TOP 5 BEST CUSTOMERS

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Anna's Decorations, Ltd	131	4	153996.13	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Australian Collectors, Co.	229	5	200995.41	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Diecast Classics Inc.	228	4	122138.14	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
Euro Shopping Channel	50	24	830461.56	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers
La Rochelle Gifts	139	4	180124.9	Bin 1	Bin 4	Bin 4	4	4	4	444	Best Customers

Inferences and Actions:

- **High Value:** These top customers show high engagement and revenue contribution. **Action:** Prioritize them with personalized offers and loyalty programs.

- **Consistent Orders:** Their frequent purchasing indicates strong relationships. **Action:** Offer early access to products and special bulk pricing.

- **Recent Activity:** All customers are actively engaged. **Action:** Use follow-up campaigns to upsell or offer subscriptions.

- **Key Account - Euro Shopping Channel:** This customer significantly outspends others. **Action:** Provide dedicated account management and explore long-term partnerships.

- **Expansion Potential:** High spending suggests room for cross-selling. **Action:** Analyze purchase history to introduce new, related products.

RFM – TOP 5 CUSTOMERS AT CHURNING RISK

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Daedalus Designs Imports	573	2	69052.41	Bin 3	Bin 1	Bin 2	2	1	2	212	At Risk of Churning
Osaka Souveniers Co.	563	2	67605.07	Bin 3	Bin 1	Bin 2	2	1	2	212	At Risk of Churning
Super Scale Inc.	430	2	79472.07	Bin 3	Bin 1	Bin 2	2	1	2	212	At Risk of Churning
Collectable Mini Designs Co.	575	2	87489.23	Bin 3	Bin 1	Bin 3	2	1	3	213	At Risk of Churning
Vida Sport, Ltd	440	2	117713.56	Bin 3	Bin 1	Bin 4	2	1	4	214	At Risk of Churning

Inferences and Actions:

- **Declining Engagement:** These customers have low Recency and Frequency scores, indicating a decline in purchasing activity. **Action:** Implement re-engagement campaigns, such as special discounts or personalized outreach, to encourage repeat purchases.

- **Moderate Spending:** Although their spending varies, they contribute moderate revenue, especially Vida Sport, Ltd, with a higher Monetary score. **Action:** Offer tailored incentives to these customers, like loyalty rewards or bundled offers, to reignite their interest.

- **Risk of Churn:** The extended gap since their last purchase suggests they may be close to churning. **Action:** Prioritize proactive communication, such as follow-up emails or exclusive offers, to remind them of your brand and rekindle their purchasing behavior.

- **Potential for Recovery:** Despite being at risk, these customers have shown past engagement, indicating the potential to regain their loyalty. **Action:** Consider a targeted win-back campaign, emphasizing the value they previously found in your products.

RFM – TOP 5 LOST CUSTOMERS

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Rovelli Gifts	1032	3	137955.72	Bin 4	Bin 2	Bin 4	1	2	4	124	Lost Customers
Cruz & Sons Co.	971	3	94015.73	Bin 4	Bin 2	Bin 3	1	2	3	123	Lost Customers
Stylish Desk Decors, Co.	702	3	88804.5	Bin 4	Bin 2	Bin 3	1	2	3	123	Lost Customers
Toys4GrownUps.com	649	3	104561.96	Bin 4	Bin 2	Bin 3	1	2	3	123	Lost Customers
Alpha Cognac	675	3	70488.44	Bin 4	Bin 2	Bin 2	1	2	2	122	Lost Customers

Inferences and Actions:

- **Long Inactivity:** These customers haven't made a purchase in a significant amount of time, indicating potential churn. **Action:** Implement a reactivation campaign with special incentives, such as limited-time discounts or exclusive offers.

- **Moderate Past Engagement:** Despite inactivity, these customers had a moderate order frequency and spending, especially Rovelli Gifts with the highest total sales. **Action:** Target high spenders with tailored rewards or loyalty programs to encourage re-engagement.

- **Recovery Potential:** Their previous spending suggests they valued your products, making them worth re-engaging. **Action:** Use personalized communication to highlight new or improved products that match their past interests, aiming to bring them back.

RFM – **TOP 5 LOYAL CUSTOMERS**

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Baane Mini Imports	245	4	116599.19	Bin 1	Bin 4	Bin 3	4	4	3	443	Loyal Customers
Reims Collectables	287	5	135042.94	Bin 2	Bin 4	Bin 4	3	4	4	344	Loyal Customers
Danish Wholesale Imports	579	4	119028.73	Bin 3	Bin 4	Bin 4	2	4	4	244	Loyal Customers
Muscle Machine Inc	502	4	197736.94	Bin 3	Bin 4	Bin 4	2	4	4	244	Loyal Customers
Handji Gifts& Co	488	4	115498.73	Bin 3	Bin 4	Bin 3	2	4	3	243	Loyal Customers

Inferences and Actions:

- **High Purchase Frequency:** These customers have consistently placed multiple orders (Frequency score of 4), indicating strong loyalty. **Action:** Reinforce this loyalty by offering exclusive benefits, such as priority access to new products or special discounts.

- **Recent Engagement Varies:** While some customers have made recent purchases (Recency score of 4), others have not purchased as recently (Recency score of 2 or 3). **Action:** Tailor communication strategies—engage recent purchasers with thank-you offers, and prompt less recent buyers with reminders or special incentives to encourage a new purchase.

- **Substantial Spending:** Most of these customers contribute significantly to sales, with several having high Monetary scores (3 or 4). **Action:** Recognize their value with personalized loyalty rewards or a tiered loyalty program that offers increasing benefits with continued purchases.

RFM – TOP 5 NEW CUSTOMERS

Customer	Days Since Last Purchase	Order Count	Total Sales	Days Since Last Purchase [Binned]	Order Count [Binned]	Total Sales [Binned]	Recency	Frequency	Monetary	RFM Score	Customer Segment
Land of Toys Inc.	216	3	118711.78	Bin 1	Bin 2	Bin 4	4	2	4	424	New Customers
Online Diecast Creations Co.	253	3	131685.3	Bin 1	Bin 2	Bin 4	4	2	4	424	New Customers
Auto Canal Petit	127	3	93170.66	Bin 1	Bin 2	Bin 3	4	2	3	423	New Customers
FunGiftIdeas.com	111	3	98923.73	Bin 1	Bin 2	Bin 3	4	2	3	423	New Customers
Gift Depot Inc.	226	3	101894.79	Bin 1	Bin 2	Bin 3	4	2	3	423	New Customers

Inferences and Actions:

- **Recent Engagement:** These customers have made recent purchases (Recency score of 4), indicating they are newly engaged with your business. **Action:** Strengthen this new relationship by offering welcome incentives, such as discounts on their next purchase or a small gift with their order.

- **Moderate Frequency:** While they have made a few purchases (Frequency score of 2), there is potential to increase their buying frequency. **Action:** Encourage repeat purchases through targeted follow-up emails, suggesting complementary products or offering loyalty points for future transactions.

- **Varying Spending Levels:** Some customers, like Land of Toys Inc. and Online Diecast Creations Co., have higher spending (Monetary score of 4), while others are moderate spenders. **Action:** Customize marketing efforts based on their spending patterns—offer exclusive deals to higher spenders and upsell opportunities to those with moderate spending.

INSIGHTS & RECOMMENDATIONS

The Insights and Recommendations section focuses on customer segmentation using RFM analysis, offering targeted actions to attract, retain, and re-engage customers. It highlights key patterns in customer behavior and suggests further analysis by geographic distribution, product line, and deal size for deeper insights.

INSIGHTS

- **High Engagement Segments:** "Best Customers" show strong engagement with high Recency, Frequency, and Monetary scores, contributing significantly to overall revenue.

- **Geographic Distribution:** Analysis shows that certain countries, such as the USA, dominate in terms of customer count and sales, indicating key markets for the business.

- **Product Line Performance:** The "Classic Cars" product line drives the highest sales across most customer segments, making it a critical product category.

- **Deal Size Impact:** Larger deals contribute significantly to total sales, particularly in the "Best Customers" and "Loyal Customers" segments, underscoring the importance of high-value transactions.

- **Status Analysis:** Most orders are in a "Shipped" status, with few in "Cancelled" or "On Hold," indicating efficient order fulfillment but also potential areas to reduce cancellations.

- **At Risk of Churning:** Customers in this segment show declining engagement, with low Frequency and moderate Monetary values, signaling a need for re-engagement strategies.

- **Lost Customers:** Customers who haven't purchased recently despite moderate past spending indicate a need for targeted win-back campaigns.

- **Loyal Customers:** Consistently purchase with high Frequency but show varied Recency and Monetary scores, indicating opportunities to reinforce their loyalty.

- **New Customers:** Recently engaged customers with low Frequency present opportunities for nurturing into loyal, long-term clients.

- **Revenue Concentration:** A significant portion of revenue is concentrated among top customers, particularly in key product lines and larger deal sizes, indicating a need to focus on these areas.

RECOMMENDATIONS

- **Prioritize Best Customers:** Continue to focus on retaining "Best Customers" with personalized loyalty programs, exclusive offers, and top-tier customer service to maintain their high engagement and revenue contribution.

- **Target Key Markets:** Further segment and tailor marketing strategies by country, focusing on high-revenue regions like the USA to maximize market potential.

- **Product Line Focus:** Concentrate on promoting and expanding the "Classic Cars" product line, given its strong performance across customer segments.

- **Leverage Deal Size:** Encourage larger transactions through volume discounts or special pricing, particularly among "Best" and "Loyal Customers" who already contribute significantly to sales.

- **Re-engage At Risk Customers:** Implement targeted campaigns for "At Risk of Churning" customers, offering discounts or special promotions to re-ignite their interest.

- **Win Back Lost Customers:** Develop win-back campaigns for "Lost Customers," leveraging their past purchasing data with personalized offers to encourage them to return.

- **Nurture New Customers:** Focus on converting "New Customers" into loyal clients through onboarding programs, follow-up communications, and loyalty incentives.

- **Monitor Order Status:** Reduce cancellations and "On Hold" statuses by improving order processing and customer communication, ensuring a smoother transaction experience.

- **Further Segmentation:** Classify data by country, deal size, and product line to identify additional opportunities for tailored marketing, product development, and regional strategies.

RFM Analysis

THANK YOU

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PROJECT A | MARKETING & RETAIL ANALYTICS