

Marketing Analytics Final Project Report

Optimizing Customer Lifetime Value



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INTRODUCTION

Overview of Jibu

Jibu, established in 2012 by Randy and Galen Welsch, is a for-profit social enterprise operating in East Africa. Its mission is to provide access to clean water, LPG cooking gas, and fortified porridge through a unique franchise model. With a strong presence in major cities across Rwanda, Uganda, Kenya, Tanzania, DR Congo, Burundi, Zambia, and Ghana, Jibu has become a leading supplier of bottled water. Beyond sales, Jibu empowers local entrepreneurs by providing them with capital, training, and ongoing support, fostering economic growth and social development. By investing in these business-in-a-box franchises, Jibu creates sustainable opportunities for communities to address critical needs. The company's innovative approach not only improves access to essential goods but also promotes local ownership and long-term benefits. Jibu stands as a beacon of opportunity, dedicated to enhancing health and well-being in underserved regions. Through its efforts, Jibu is revolutionizing access to vital resources and driving positive change in communities across Africa.

Engaging with Structural Challenges

Jibu confronts issues such as water scarcity, economic inequality, and limited access to essential resources in East Africa. By offering franchising opportunities, Jibu tackles unemployment and fosters local entrepreneurship, countering systemic economic barriers. Additionally, Jibu's focus on clean water provision addresses health disparities and promotes community well-being, mitigating the effects of waterborne diseases and improving overall health outcomes. Through its innovative approach, Jibu also confronts environmental challenges by promoting sustainable water management practices and reducing plastic waste through refillable water options. Moreover, Jibu's commitment to empowering local communities fosters social cohesion and resilience, contributing to broader efforts for inclusive development and poverty alleviation in the region.

Problem Identification

Jibu faces a significant hurdle in effectively analyzing the Customer Lifetime Value (CLV) of its franchises, resulting in a lack of clarity for making informed marketing decisions and resource allocations. Moreover, the absence of comprehensive market research and competitor analysis further compounds this challenge, leaving Jibu with limited insights into prevailing market trends and competitive dynamics. Consequently, the organization struggles to refine its marketing strategies and establish a strong positioning within the rapidly evolving market landscape. This impediment poses a threat to Jibu's ability to optimize customer satisfaction, retention efforts, and overall franchise performance, ultimately hindering its mission to create positive social impact in underserved communities.

Objectives and Strategies

To address these challenges, the primary goal of the project is to conduct a detailed analysis of the CLV of Jibu franchises. By gaining a thorough understanding of the long-term value contributed by each franchise, Jibu can make informed marketing decisions and allocate resources effectively. Additionally, conducting comprehensive market research and competitor analysis will provide valuable insights into market trends and competitive dynamics, enabling Jibu to refine its marketing strategies and position itself effectively. Through these efforts, Jibu aims to optimize customer satisfaction, enhance retention efforts, and improve overall franchise performance, thereby sustaining its competitive advantage and fostering growth in alignment with its mission of creating positive social impact in underserved communities.

SITUATION ANALYSIS

Data Overview

The analysis utilizes information provided by Jibu across three key datasets: Franchise Health, Monthly Meter Reading, and BOJ Score. These datasets contain essential information about franchise operations, performance, and quality. By leveraging these datasets, we aim to extract valuable insights to inform our analysis. Through a comprehensive mapping process, franchise IDs from these datasets have been correlated to facilitate the discovery of meaningful patterns and trends within the data.

Preparation and Integration of Datasets

Monthly Meter Reading Data

The dataset was cleaned by standardizing column names, converting month dates to the 25th of each month for consistency, and filtering data for the years 2021, 2022, and 2023. Further filtering was done to include records from selected countries (Kenya, Rwanda, Uganda, and Goma) and exclude negative water production values for meaningful analysis. Recency, frequency, and monetary value metrics were calculated for each franchise.

Franchise Health Data

The franchise name column was cleaned to separate franchise IDs and names for consistency. Eliminated the records without revenue information. Additionally, revenue, expense, and profit columns were converted to USD for uniform comparison across franchises. Percentage of target achieved for water, LPG, and porridge was calculated to provide insights into franchise performance.

BOJ Score Data

Column names were standardized by converting to lowercase and replacing spaces with underscores for consistency. Key columns such as BOJ score, quality, and customer experience were used to gain insights into franchise information. This cleaning process ensures that the data is prepared for analysis and facilitates meaningful interpretation of franchise performance metrics.

Exploratory Data Analysis

Monthly Meter Reading (Figure 1.1, 1.2, 1.3, 1.4)

- The monthly water production across franchises for the years 2021, 2022, and 2023 varies significantly, ranging from 20 liters to a maximum of 386,162 liters, with an average of 67,185 liters.
- Daily water production ranges from a minimum of 0.769 liters to a maximum of 14,852.385 liters per day, indicating diverse production capacities across franchises.
- Rwanda boasts the highest number of franchises, with 60 establishments, followed by Uganda and Kenya, each with 42 franchises, while Goma has 11 franchises.
- Rwanda surpasses 150,000,000 liters in monthly water production, followed by Uganda, Goma, and Kenya, with top-performing franchises such as RW011, UG003, DRCG005, and KE011 significantly contributing to overall production, as depicted in Figure 1.4.

Health data

Total Revenue and Total Expense (Figure 2.1, 2.2, 2.3)

- Analyzing revenue and expenses by month provides valuable insights into the demand for water and helps franchises optimize resource allocation.
- Figure 2.1 illustrates a surge in revenue during the initial months of the year (January and February) across all four countries, likely due to increased water consumption during the summer months.
- In Goma, with a single high revenue value (approx \$80000000) appearing in January, indicating potential extreme weather conditions or exceptional demand for bottled water in the region.
- Kenya shows consistent revenue, peaking in March (\$60,000), while Rwanda maintains relatively stable revenue across each month, with the highest recorded in January (\$80,000).
- Kenya exhibits a peak expense in June (\$40,000) and lowest expense occurs in September. Rwanda's expense pattern mirrors its revenue pattern, with the highest expenses occurring in February.
- Uganda records its highest expenses in January, aligning with the revenue trend observed in other countries.

Most Profitable Franchises in Each Country (Figure 2.4, 2.5, 2.6 ,2.7)

- These graphs display the top 10 performing franchises in each country. Franchise businesses across these regions experience different levels of profitability, likely due to a variety of factors including market size, operational efficiency, and local economic conditions.
- The scales of profit in each country vary widely, suggesting that the economic environments and the potential for profitability in each of these countries are quite distinct.

Type of End Customer Distribution by Country (Figure 2.8, 2.9)

- Kenya has the highest number of total active customers (39326) with most of them coming from the household category (36606). For Goma and Rwanda majority of their customers come from households and followed by retailers. Goma has the lowest active customers count.
- Uganda too has the highest number of active customers coming from households but has a similar distribution in retailers and Institutions.
- Overall, the main end customers for Jibu come from households in these 4 countries.

Percentage of Target Achieved by country (for liters of water) (Figure 2.10)

Figure 2.10 illustrates that franchises in Rwanda consistently achieve 85.94% of their monthly target liters, closely followed by those in Goma and Uganda. Conversely, franchises in Kenya lag behind, achieving only 81.25% of their target. This insight sheds light on the performance of franchises across different countries, suggesting opportunities for Jibu to focus its efforts. By concentrating more resources and attention on Rwanda, Goma, and Uganda, where targets are being met more effectively, Jibu can enhance profitability and optimize its operations.

BOJ Score Data (Figure 2.11, 2.12, 2.13)

The analysis of franchise age distribution across Goma, Kenya, Rwanda, and Uganda reveals significant insights into the respective franchise industries. Rwanda stands out with the highest average age of franchises, indicating a mature market where businesses have been established for longer periods, potentially reflecting a stable business environment. Conversely, Kenya exhibits the lowest average age, suggesting a younger market with newer entrants and potentially higher growth opportunities, albeit with increased competition and market dynamism.

The analysis highlights notable disparities in the mean average BoJ score across the studied countries. Goma leads with a score exceeding 200, indicating a relatively strong performance. Rwanda exhibits the lowest mean average BoJ score, around 150, suggesting comparatively lower performance. These findings underscore variations in franchise performance across the countries. The same trends are followed in the customer experience score, indicating a direct relation between BOJ score and customer experience.

MODELING TECHNIQUES AND ASSESSMENT

Data Integration Approach

Jibu's challenge lies in optimizing Customer Lifetime Value (CLV) due to underutilization of real-time data on water volumes, customer locations, and franchise performance. This hampers revenue maximization and strategic resource allocation for customer acquisition. Addressing this issue is crucial for refining marketing strategies, enhancing customer satisfaction, and boosting market share in a competitive landscape. To prepare the data, a series of steps were undertaken to ensure the data was appropriately structured for clustering analysis:

1. **Metrics Calculation:** Conducted an analysis by aggregating data by franchise_id to derive three key metrics: Recency, Frequency, and Monetary Value (RFM). Recency represents the time since the last transaction, Frequency denotes the count of transactions, and Monetary Value reflects the total liters produced by each franchise. This approach provides valuable insights into franchise performance,

aiding in the identification of high-value franchises and informing strategic decision-making for marketing and resource allocation.

2. **Customer Segmentation:** Customer segmentation based on Recency, Frequency, and Monetary Value (RFM) metrics to categorize franchises into distinct groups according to their recent transactional behavior, purchase frequency, and total spend. By analyzing these RFM metrics, Jibu can identify high-value customers, loyal patrons, and those requiring re-engagement strategies. This segmentation enables targeted marketing, personalized experiences, and optimized resource allocation to maximize customer satisfaction and loyalty.

In the customer segmentation analysis, K-means clustering identified distinct customer segments for targeted marketing (Figure-3.5). After determining 8 clusters through silhouette (Figure-3.1) and within-cluster sum of squares (Figure-3.2) methods, K-means clustering was applied to standardized RFM data. This categorized franchises into clusters based on similar RFM profiles, assigning each a cluster label. Computing cluster centers (Figure-3.3) provided insights into each segment's unique attributes, facilitating targeted marketing and personalized customer experiences.

3. **Customer Lifetime Value Analysis:** The calculation of Customer Lifetime Value (CLV) begins with a churn rate of 30% and an average customer lifespan of 3 years, indicating an anticipated tenure with the company before customers churn. To adjust for the time value of money, a discount rate of 10% per year is applied. This discounting principle acknowledges that future cash flows are inherently less valuable than present cash flows. In the CLV computation, the Monetary Value (MV) associated with each year's transactions is discounted. Specifically, the MV for the second year is divided by 1.1, and for the third year, it is divided by 1.21 (1.1^2). This adjustment reflects the discounted values for each respective year, considering the time value of money. Subsequently, the discounted MVs for each year are aggregated over the 3-year period to determine the CLV for each customer. This meticulous approach ensures a comprehensive evaluation of the total expected value generated by customers throughout their tenure with the company, factoring in both the duration of customer relationships and the time value of money.

CLV Calculation

The calculation of Customer Lifetime Value (CLV) involves adjusting the amount of liters produced based on the compounded effect of the discounted rate over the number of years since the start date. This adjustment accounts for the time value of money and yields a time-adjusted value of the liters produced, representing the CLV for each entry. Formula used to calculate CLV:

$$CLV = \text{Liters produced} / (1 + \text{Discount Rate})^{\text{Year}}$$

Cluster Mapping

Following the integration of CLV data with cluster analysis, further examination was conducted to delve deeper into franchise dynamics and identify actionable insights. This included:

1. **Comparative Analysis:** Mapped CLV data with cluster data to compare CLV metrics (Figure-3.4) across different franchise clusters, assessing variations in franchise value and performance. Identified clusters with higher CLV, indicating areas of strength, and clusters with lower CLV, signaling areas for improvement. This analysis provided insights into franchise performance, guiding strategic initiatives for optimizing network value and enhancing overall performance within Jibu's franchise network.
2. **Customer Profiling:** The CLV data was mapped with the health data to compute the total CLV (TotalCLV) and count of entries (count) for each franchise (Figure-3.6). This aggregation offers a comprehensive view of the value of each franchise over time. Customer profiling involved segmenting franchise customers based on CLV metrics and RFM characteristics. By categorizing customers into distinct segments such as high-value, medium-value, and low-value customers, personalized marketing strategies and customer retention initiatives were developed to maximize CLV and foster long-term customer relationships.

3. **Regression Analysis of CLV and Feature Selection:** CLV data was mapped with health data to predict future franchise performance and identify potential areas for improvement. By correlating CLV metrics with franchise health indicators such as hygiene audit scores, sales performance, and customer satisfaction ratings, a predictive model was developed to forecast future CLV trends and anticipate franchise outcomes. Excluded variables with multicollinearity for model interpretability and accuracy. Final model emphasized statistically significant factors providing practical insights into CLV's operational influences.

The built regression model achieved an R-square value of ~86% (Figure-3.7), demonstrating that a substantial proportion of the variance in the CLV can be explained by the selected features.

$$\begin{aligned} \text{CLV} = & -439321 + 30.3 * \text{Revenue(in USD)} + 7026 * \text{Active Retailers} + 4709 * \text{18L Bottle sold} \\ & + 422.7 * \text{20L Tap Bottle refill} + 177.6 * \text{18L jumbo Bottle refill} + 12521.3 * \text{BoJ Score} \\ & 773.9 * \text{20L Jerricans bottle refill} - 46918.6 * \text{Sales Score} - 10266.2 * \text{Customer Exp Score} \end{aligned}$$

On average, for every additional active retailer, there is a corresponding increase of 7026 in CLV. Likewise, each additional sale of an 18L bottle results in a CLV, on average increase of 4709.

Based on the CLV calculations and cluster analysis, Jibu can concentrate on franchises in cluster 8 and 2 which have high CLV values. Jibu can also use these high CLV franchises as the benchmark for analyzing performances of the rest of the franchises.

COMPETITOR ANALYSIS

Jibu faces competition from various players across East Africa, each with its unique strengths and market positioning. Below are few of the competitors to Jibu and how Jibu can improve their strategies to tackle these competitors:

Naivas (Kenya): Naivas offers a wide range of products, while Jibu focuses on affordable water and essentials. Jibu could diversify products, enhance distribution, and emphasize sustainability.

Virunga (Rwanda): Virunga prioritizes eco-friendly packaging, Jibu focuses on social impact. Jibu could adopt eco-packaging, explore sustainability partnerships.

Swissta (Goma): Swissta emphasizes quality, Jibu empowers local entrepreneurs. Jibu should prioritize quality assurance, consider diversification.

Aqua Sipi (Uganda): Aqua Sipi offers high-quality water, Jibu emphasizes community impact. Jibu could differentiate offerings, expand market reach.

Overall, in Kenya, Jibu can launch a loyalty program for customers and host educational workshops on water conservation. In Rwanda, tree-planting events and water stations can promote eco-friendliness. In the DRC, free water testing and event sponsorships can emphasize consumer safety and community engagement. In Uganda, Jibu can showcase franchisee impact through social media and implement a "Pay-It-Forward" program, while also investing in mobile water purification units for emergency relief.

CONCLUSION AND RECOMMENDATIONS

Targeted Marketing Campaigns

- **Drivers of CLV:** Jibu can focus on increasing the number of active retailers through tailored initiatives like incentivization programs, improved support, and expanded networks. Promote sales of 18L bottles by launching targeted marketing campaigns and enticing promotional offers. Encourage customers to refill 20L tap bottles and 18L jumbo bottles by implementing refill incentive programs and highlighting the environmental advantages of refillable containers. These strategies aim to enhance customer engagement and drive long-term profitability.

- **Seasonal Incentives:** Jibu can offer seasonal incentives to franchises not performing well especially in regions like Uganda and Kenya where the revenue in summer months is low. Also, give discounts in the months where revenue is low especially towards the last quarter of the year.
- **Increasing Franchises:** Jibu has a scope of increasing the number of franchises in Goma by discounting acquisition cost for new franchises. To increase the overall sales of franchises in Goma, Jibu can offer extra discounts on products which have large profit margins such as bottle refills.
- **Segmented Messaging:** Implement segmented marketing campaigns tailored to diverse customer segments, focusing on profitability and social impact for franchise owners, and health benefits for consumers.
- **Localized Marketing:** Utilize localized marketing strategies to resonate with cultural preferences, leveraging local languages and customs.
- **Digital Engagement:** Engage customers through digital channels like social media and email marketing, using data analytics for personalized messages. Optimize campaign performance across digital platforms for effective outreach to franchise owners and consumers.

Investment in Franchisee Relationships

- **Franchise Advisory Council:** Establish a Franchisee Advisory Council comprising high-performing franchise owners to provide strategic guidance and feedback on business operations and initiatives. Regular meetings and forums can facilitate open communication and collaboration between the corporate team and franchisees.
- **Training and Development Workshops:** Organize regular training and development workshops focusing on key areas such as business management, customer service, and product knowledge. Provide franchise owners with access to industry experts, best practices, and resources to enhance their skills and expertise. For example: the survey data which was filled by the Jibu surveyor itself had many missing records. By training the surveyors they can avoid this in future and generate more holistic data for further analysis.
- **Recognition and Incentive Programs:** Implement recognition and incentive programs to reward top-performing franchise owners for their contributions and achievements. Recognize excellence in areas such as sales performance, customer satisfaction, and community engagement, motivating franchisees to strive for continuous improvement and success.
- **Continuous Monitoring and Adaptation:** Implement a robust monitoring system to track key metrics related to franchise owners and end-users. Stay agile and adaptive to evolving market dynamics, allowing Jibu to capitalize on emerging opportunities and refine strategies accordingly.

By implementing these specific recommendations, Jibu can strengthen its marketing efforts, deepen franchisee relationships, and ultimately optimize customer lifetime value while furthering its mission of providing access to clean water and fostering economic empowerment in underserved communities.

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- Jibu Website: [Link](#)

APPENDIX 1

Monthly Meter Reading: (Figure 1.1, 1.2, 1.3, 1.4)

Figure 1.1: Data Summary

franchise_name	franchise_id	country_id	launch_year	year	mm_yy	liters_produced	liters_produced_per_day
Length:4367	Length:4367	RW :1859	Min. :2014	Min. :2021	Min. :2021-01-25 00:00:00.00	Min. : 20	Min. : 0.769
Class :character	Class :character	UG :1112	1st Qu.:2016	1st Qu.:2021	1st Qu.:2021-10-25 00:00:00.00	1st Qu.: 29441	1st Qu.: 1132.362
Mode :character	Mode :character	DRCG: 343	Median :2018	Median :2022	Median :2022-06-25 00:00:00.00	Median : 54419	Median : 2093.027
NA	NA	KE :1053	Mean :2018	Mean :2022	Mean :2022-07-02 06:47:33.95	Mean : 67185	Mean : 2584.040
NA	NA	NA	3rd Qu.:2020	3rd Qu.:2023	3rd Qu.:2023-03-25 00:00:00.00	3rd Qu.: 94780	3rd Qu.: 3645.400
NA	NA	NA	Max. :2023	Max. :2023	Max. :2023-10-25 00:00:00.00	Max. :386162	Max. :14852.385

Figure 1.2: Distribution of Franchise by Country

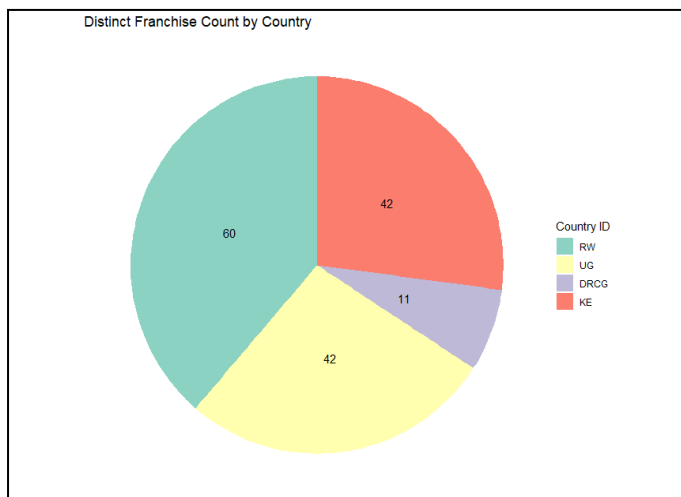


Figure 1.3: Total Liters produced by Country

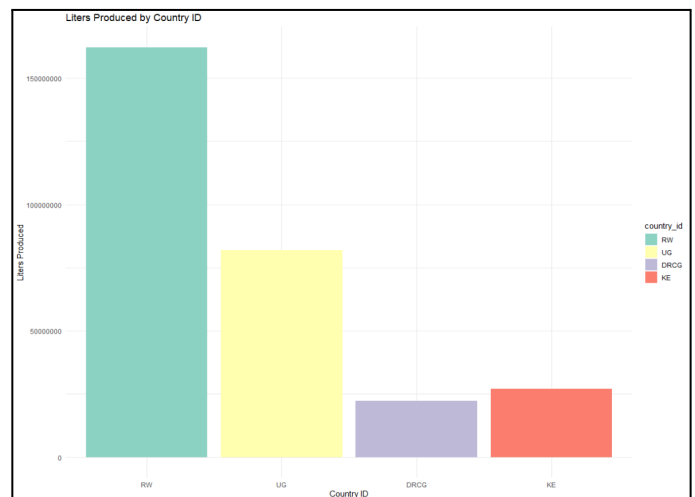
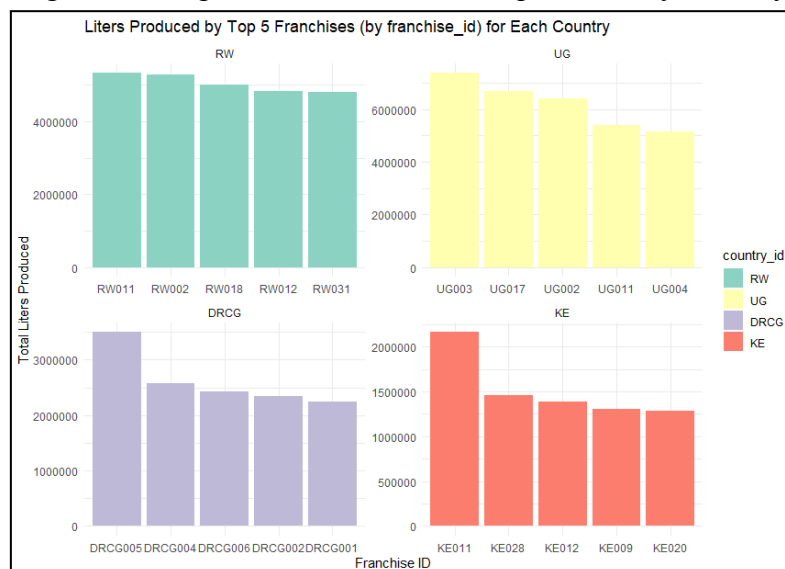


Figure 1.4: Top 5 Franchise with liters produced by Country



Total Revenue and Total Expense (Figure 2.1, 2.2, 2.3)

Figure 2.1: Total Monthly Revenue by Country

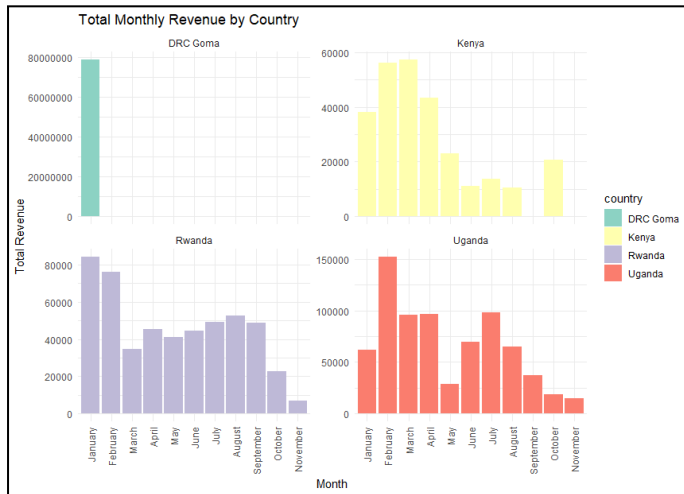


Figure 2.2: Total Monthly Expense by Country

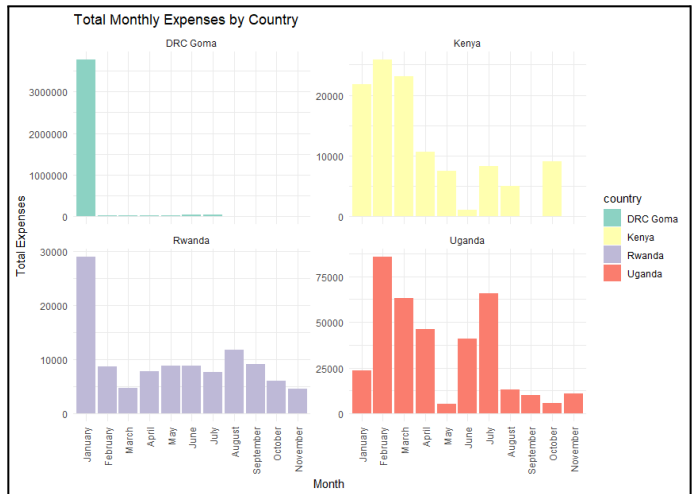
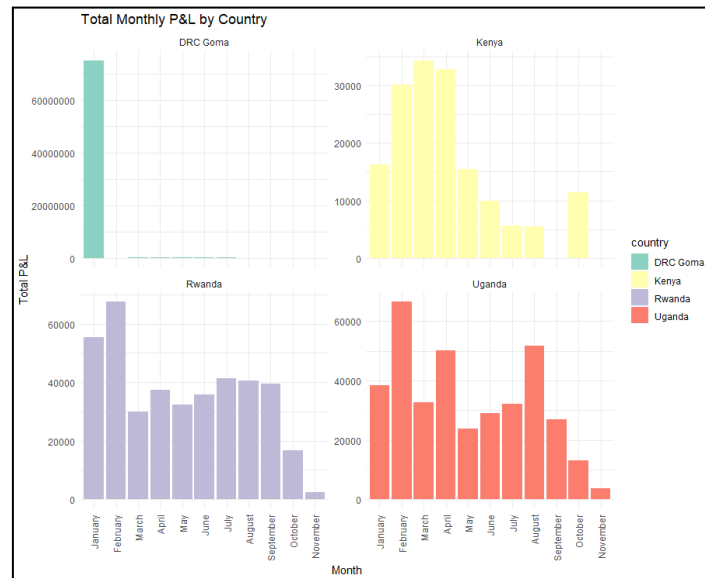


Figure 2.3: Total Monthly Profit by Country



Most Profitable Franchises in Each Country (Figure 2.4, 2.5, 2.6 ,2.7)

Figure 2.4: Total 10 Franchise by profit in Kenya

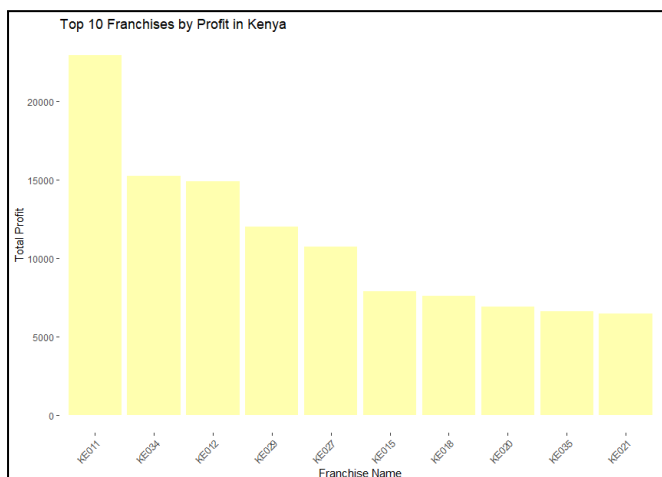


Figure 2.5: Total 10 Franchise by profit in Goma

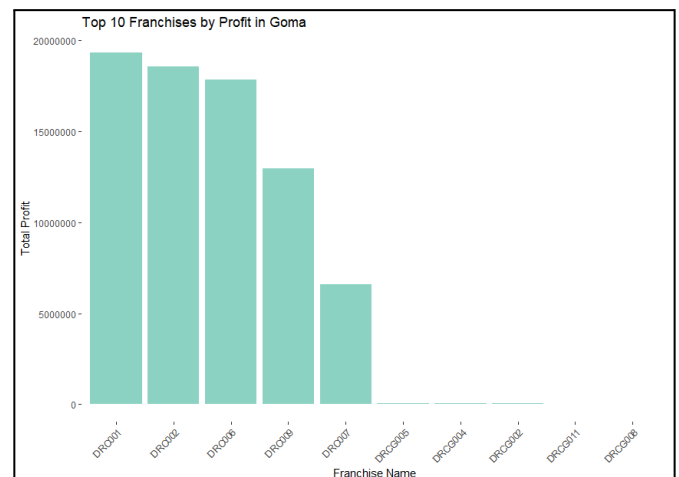


Figure 2.6: Total 10 Franchise by profit in Rwanda

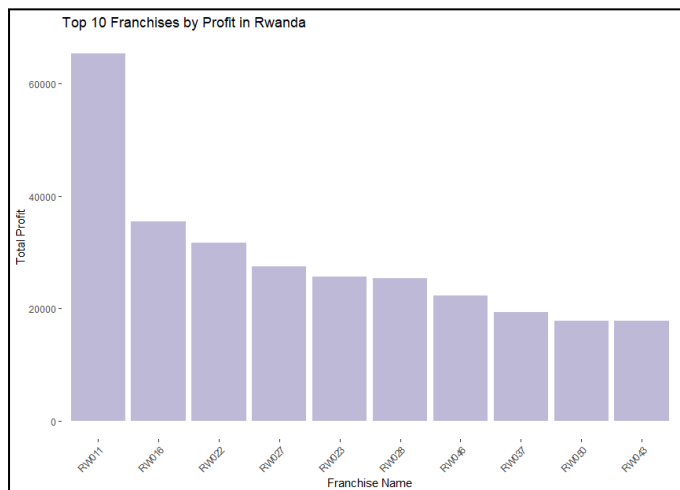
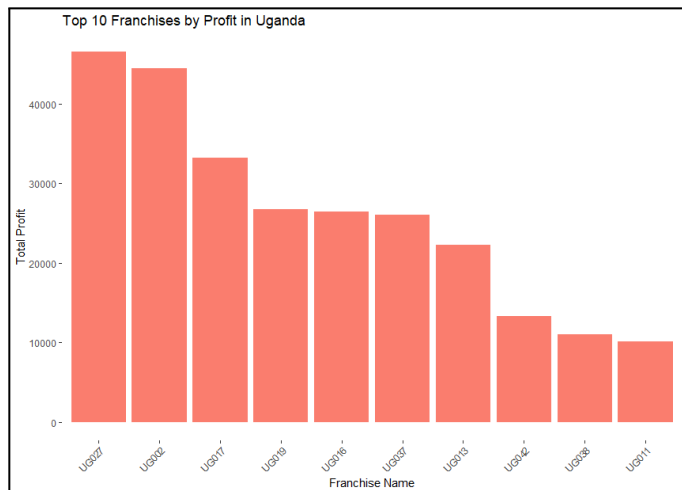


Figure 2.7: Total 10 Franchise by profit in Uganda



Type of End Customer Distribution by Country (Figure 2.8, 2.9)

Figure 2.8: Active Customers by Type and Country

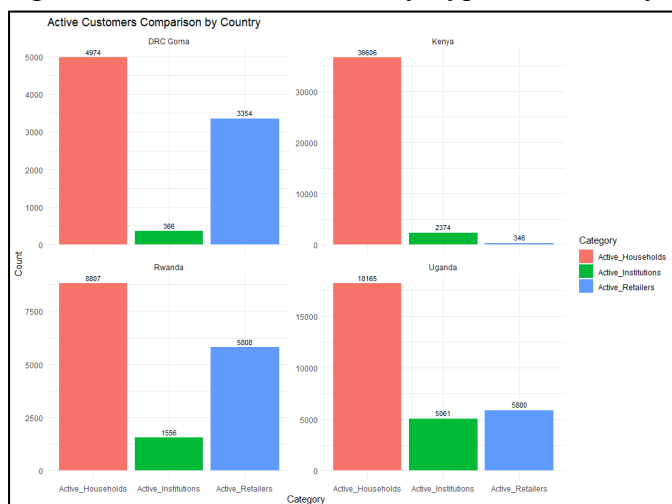
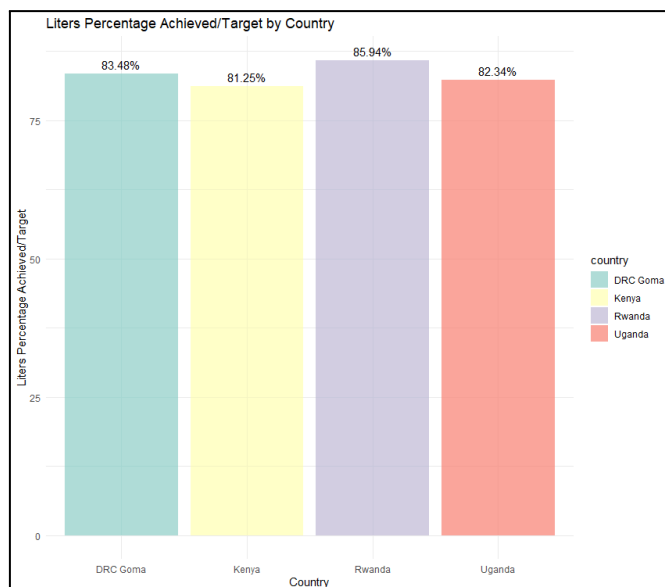


Figure 2.9: Total active Customers by Country

	country	Total_active_customers
1	Kenya	39326
2	Uganda	29106
3	Rwanda	16171
4	DRC Goma	8694

Percentage of Target Achieved by country (for liters of water) (Figure 2.10)

Figure 2.10: Percentage Target achieved by Countries



BOJ Score Data: (Figure 2.11, 2.12, 2.13)

Figure 2.11: Distribution of Franchise Age by Country

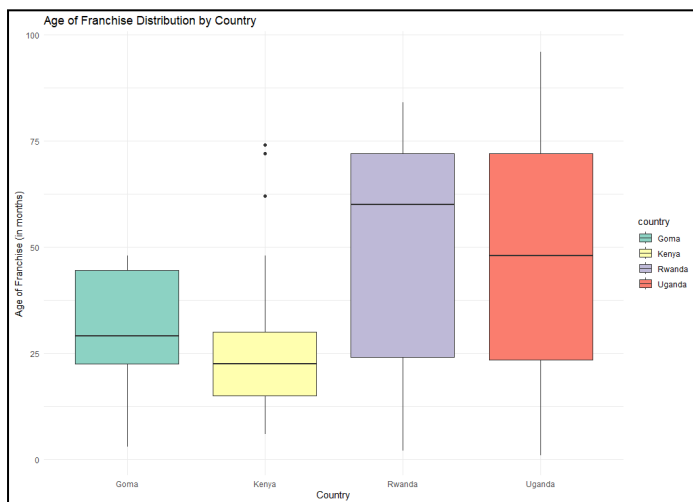


Figure 2.12: Average BoJ score by Country

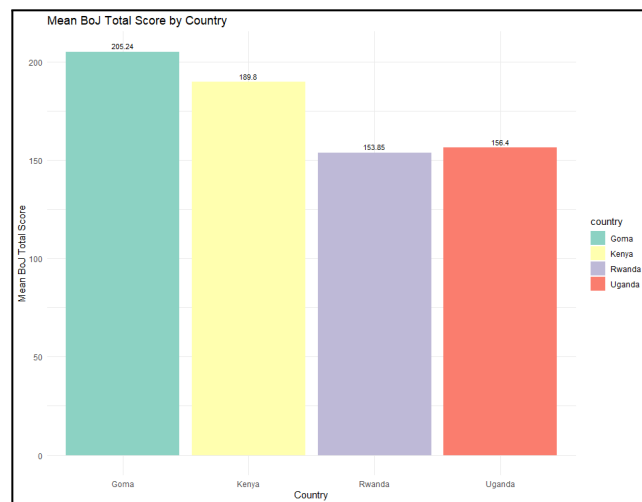
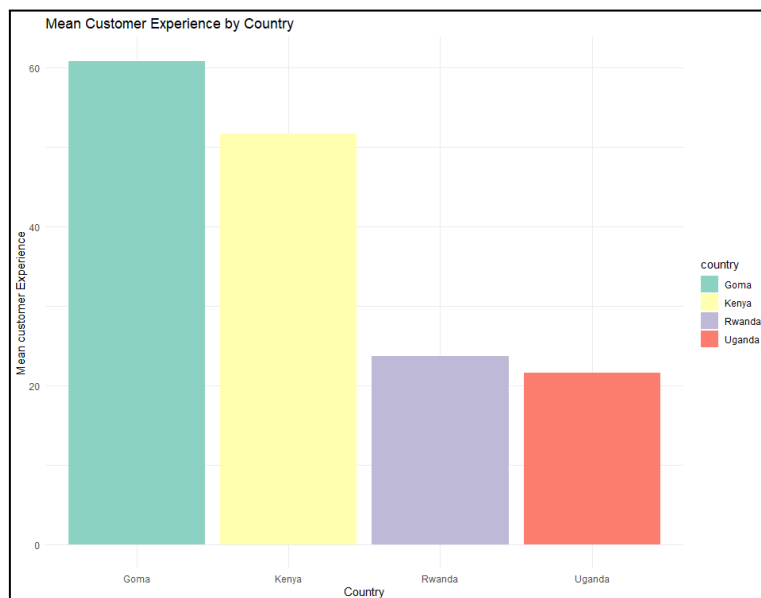


Figure 2.13: Average Customer Experience by Country



Customer Lifetime Value Analysis: (Figure 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7)

Figure 3.1: Silhouette Scores by Cluster

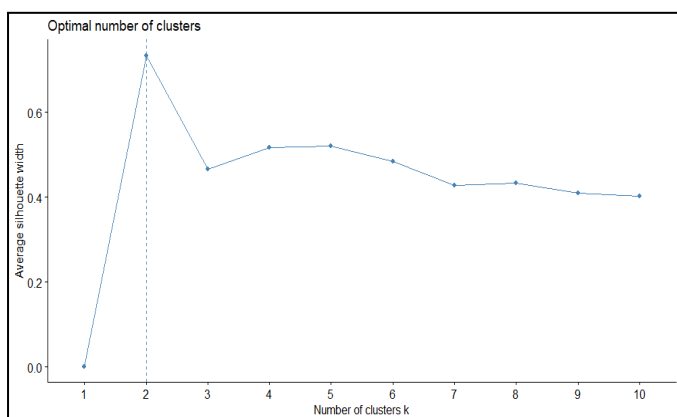


Figure 3.2: Total WSS Scores by Cluster

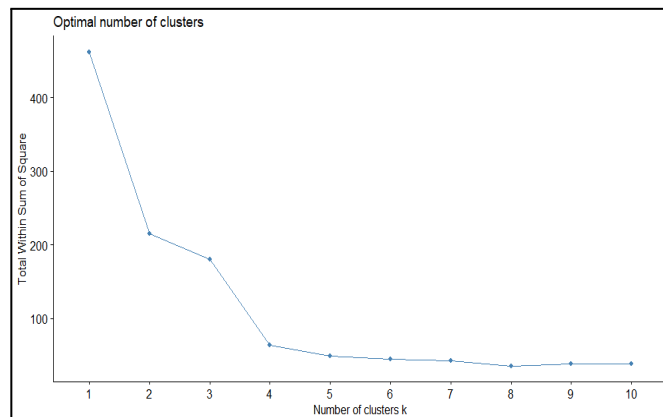


Figure 3.3: Final Clusters

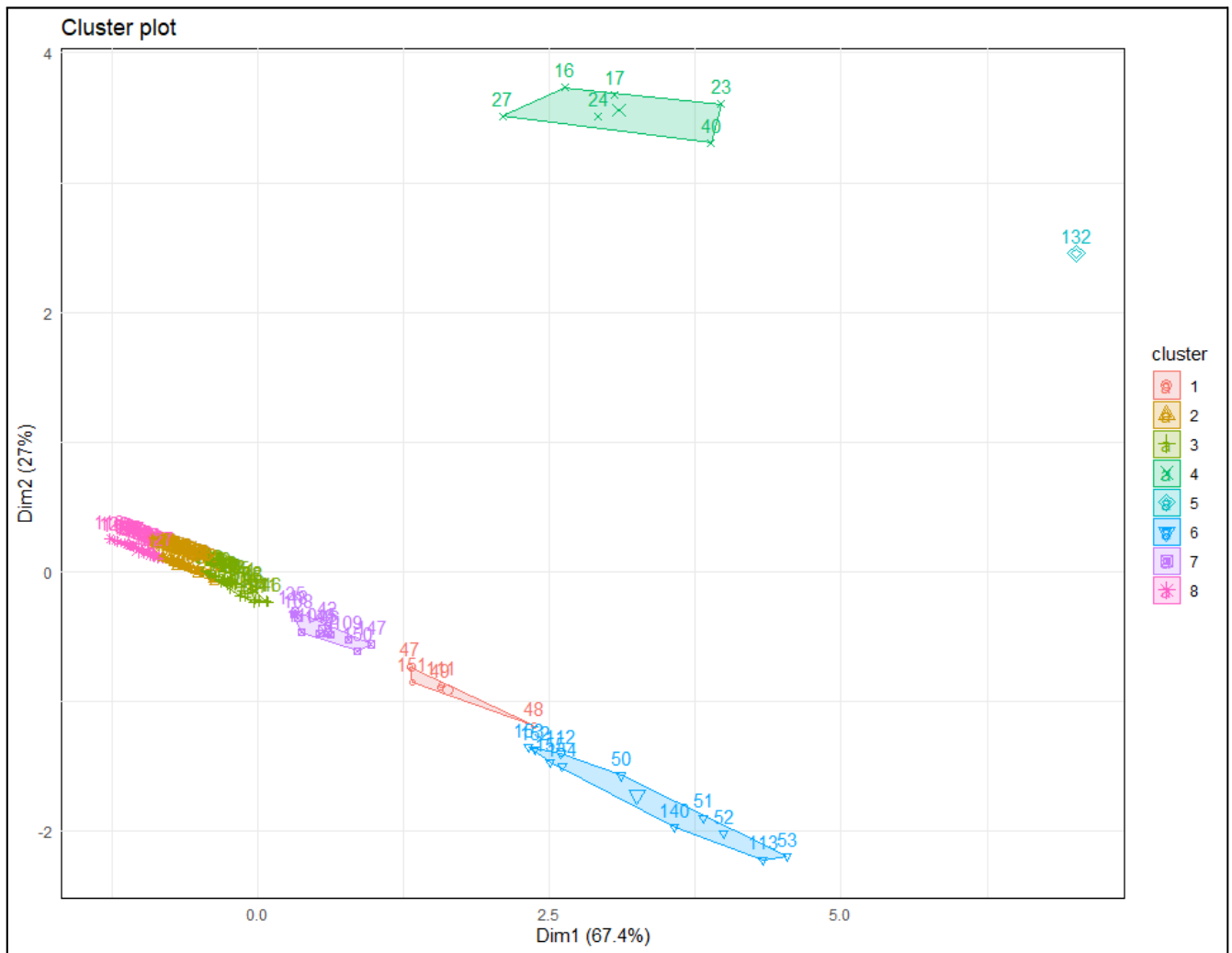


Figure 3.4: CLV summary across different clusters

	K_Cluster	Avg_Recency	Avg_Frequency	Avg_MonetaryValue	Avg_Avg_Revenue	Avg_Avg_Expense	Avg_Tot_Revenue	Avg_Tot_Expense	Avg_CLV	Avg_Tot_CLV
1	1	0	12.92857	190333.1	985.177	736.2936	13792.46	10308.110	188608.3	2640516
2	2	0	33.20690	1968106.6	5195.587	1883.7583	904032.09	327773.943	1789127.7	311308228
3	3	0	31.54412	955673.9	3261.409	1203.0135	443551.63	163609.835	874595.9	118945041
4	6	0	4.00000	116497.0	2908.259	970.9788	14541.29	4854.894	116497.0	582485
5	7	0	21.03704	380379.8	2115.136	531.0864	57108.68	14339.332	363193.9	9806236
6	8	0	33.44828	4531114.1	9106.900	3618.1180	528200.18	209850.847	4118975.2	238900560

Figure 3.6: CLV values across different Franchise

	franchise_id	Recency	Frequency	MonetaryValue	K_Cluster	CLV
116	UG003	0	33	7366628.0	8	6660204.1
128	UG017	0	33	6682782.0	8	5986497.7
115	UG002	0	33	6398945.0	8	5817814.1
122	UG011	0	33	5397280.0	8	4890629.6
55	RW002	0	34	5261471.7	8	4844244.9
64	RW011	0	34	5325835.0	8	4842994.0
117	UG004	0	33	5146590.0	8	4665567.4
71	RW018	0	34	5006489.7	8	4578186.1
65	RW012	0	34	4830595.7	8	4418655.7
57	RW004	0	34	4797995.5	8	4379863.3
84	RW031	0	34	4808697.1	8	4372269.1
68	RW015	0	34	4785217.3	8	4367974.0
92	RW039	0	34	4630809.3	8	4228397.4
78	RW025	0	34	4585153.0	8	4146978.7
79	RW026	0	31	4477912.7	8	4108220.6
77	RW024	0	34	4457669.7	8	4088464.5
62	RW009	0	30	4336404.0	8	3952915.6
72	RW019	0	34	4289884.8	8	3907674.8
129	UG018	0	33	4313299.0	8	3894451.2

Figure 3.5: Cluster Summary

	K_Cluster	Avg_Recency	Avg_Frequency	Avg_MonetaryValue	count
1	1	0.0	12.40000	143429.54	5
2	2	0.0	33.15556	2074421.46	45
3	3	0.0	31.34146	948066.98	41
4	4	471.5	16.83333	196954.55	6
5	5	1003.0	1.00000	6180.00	1
6	6	0.0	3.00000	93636.64	11
7	7	0.0	20.63636	460004.66	11
8	8	0.0	33.31429	4376635.29	35

Figure 3.7: Regression results

Coefficients:			
	Estimate	Std. Error	t value
(Intercept)	-366395.034	215153.819	-1.703
revenue_USD	33.768	7.331	4.606
active_retailers	6841.446	889.586	7.691
total_number_of_new_bottles_sold_this_month_18_91_bottle_jumbos_number_of_bottles	4690.259	1698.368	2.762
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_201_tap_bottle_number_of_bottles	415.951	25.328	16.423
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_18_91_bottle_jumbos_number_of_bottles	178.083	37.193	4.788
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_201_jerricans_number_of_bottles	749.243	50.669	14.787
p_2_sales	-45862.385	8262.817	-5.550
p_3_customer_experience	-9591.899	3026.291	-3.170
boj_total_score	11815.845	2229.321	5.300
	Pr(> t)		
(Intercept)	0.08940 .		
revenue_USD	0.00000562286310 ***		
active_retailers	0.000000000000013 ***		
total_number_of_new_bottles_sold_this_month_18_91_bottle_jumbos_number_of_bottles	0.00603 **		
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_201_tap_bottle_number_of_bottles	< 0.0000000000000002 ***		
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_18_91_bottle_jumbos_number_of_bottles	0.00000242613039 ***		
total_number_of_refill_bottles_sold_this_month_number_of_201_18_91_jumbo_bottles_201_jerricans_number_of_bottles	< 0.0000000000000002 ***		
p_2_sales	0.00000005389700 ***		
p_3_customer_experience	0.00165 **		
boj_total_score	0.00000019760355 ***		

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1			
Residual standard error: 467700 on 376 degrees of freedom (1 observation deleted due to missingness)			
Multiple R-squared: 0.8571, Adjusted R-squared: 0.8536			
F-statistic: 250.5 on 9 and 376 DF, p-value: < 0.00000000000000022			

APPENDIX 2

Additional references

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