

Everything Plus

Customer Analysis

24/03/2024

Source: ecommerce_dataset_us.csv

Objectives

- Understand what kind of customer we have and the quantity for each segment.
- Identify sales seasonality, popular products and order volumes per segment.
- Identify patterns in sales.
- Identify high volume and high revenue products.
- Understand sales through time period.
- From customer segmentation define what approach should be taken for each segment to increase revenue.

KPI'S

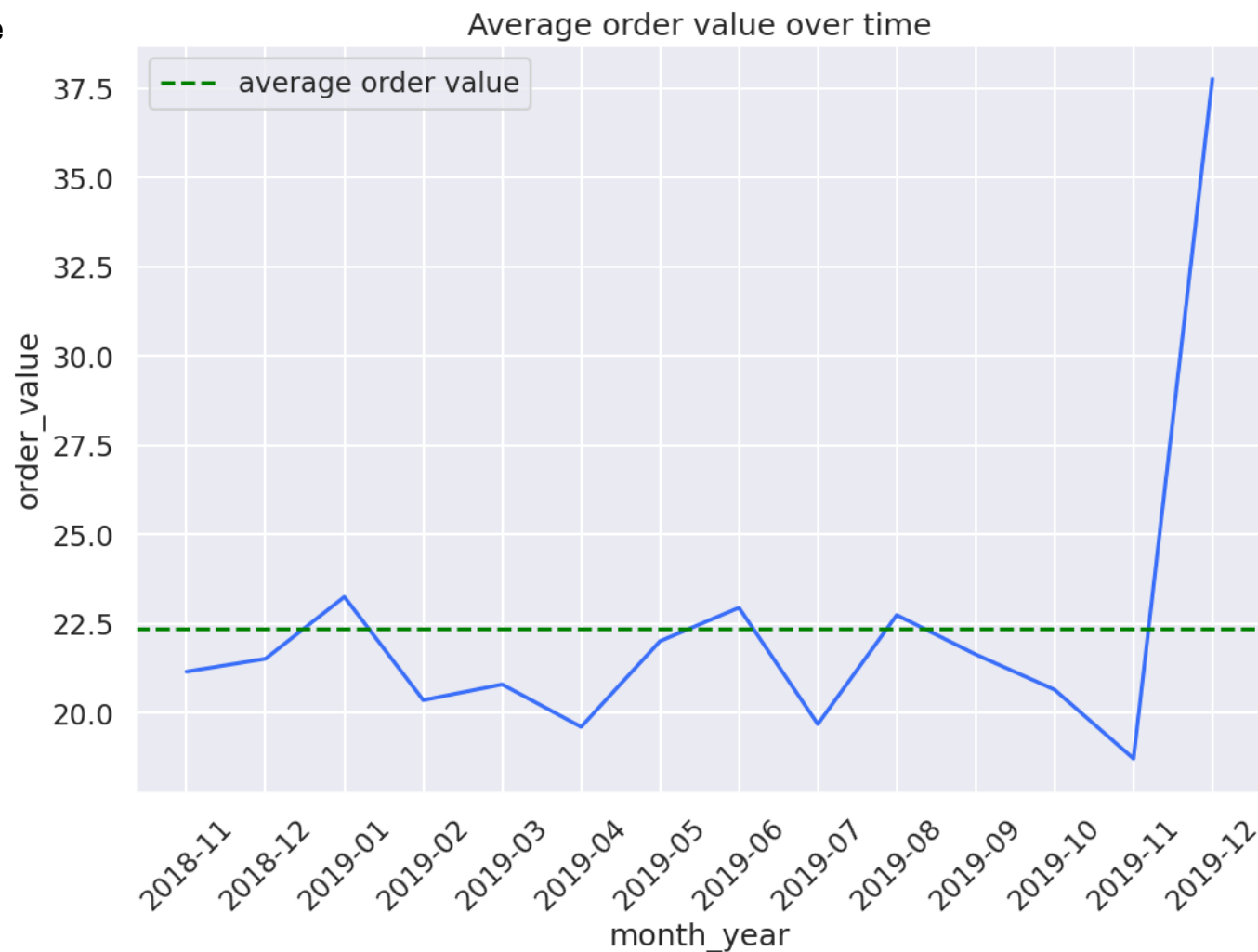
- Order Value – Monetary
- Quantity – Volume
- Date - Frequency, recency
- Total Sales – Revenue

General Analysis

Average Order Value

month_year	order_value
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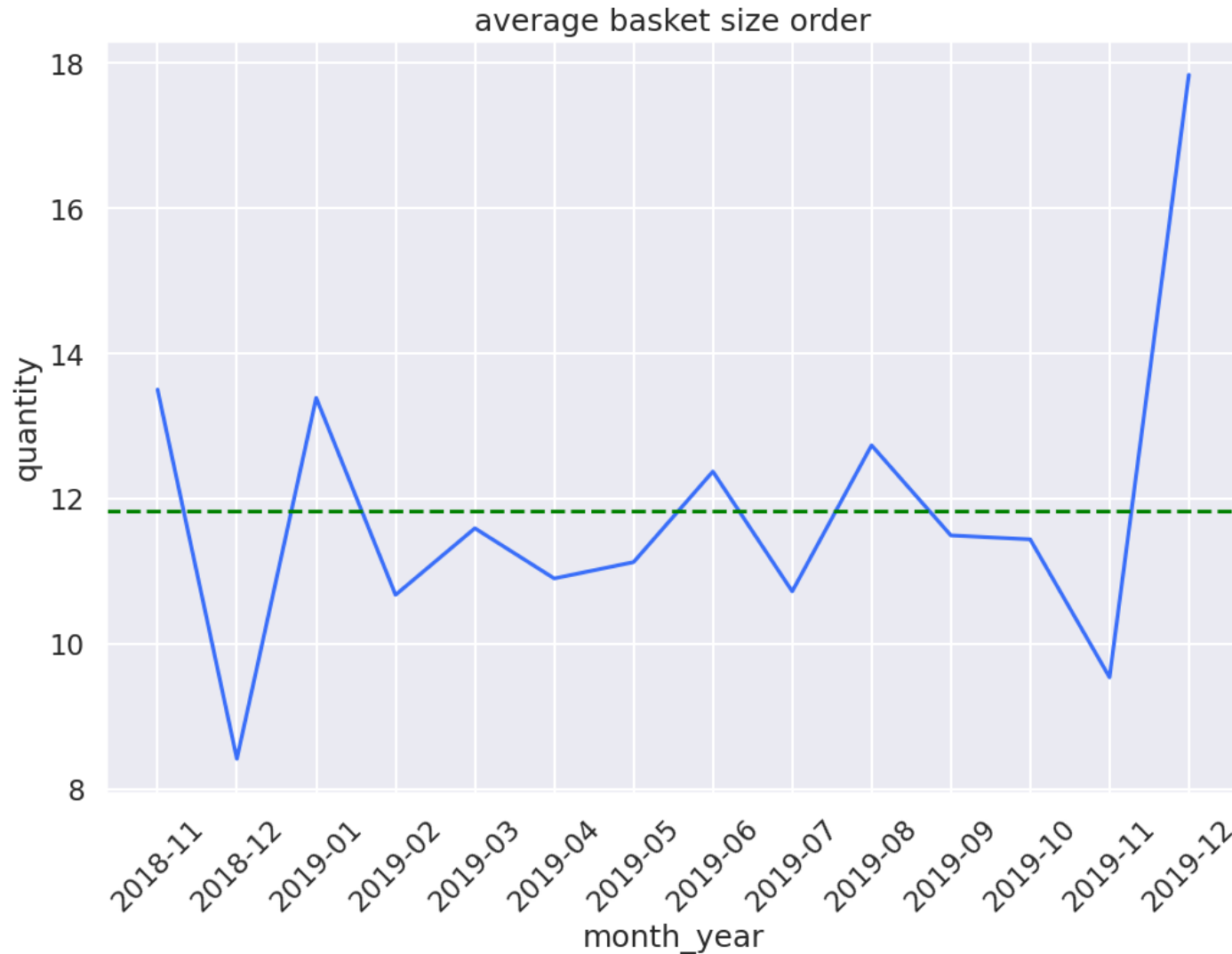
2018-11	21.15
2018-12	21.52
2019-01	23.25
2019-02	20.36
2019-03	20.80
2019-04	19.61
2019-05	22.01
2019-06	22.95
2019-07	19.68
2019-08	22.74
2019-09	21.64
2019-10	20.65
2019-11	18.72
2019-12	37.77



- Average order value is \$22.34.
- The order value is higher than its average in four different periods: Jan/2019, Jun/2019, Aug/2019 and Dec/2019.
- The Highest point is Dec/2019 and the lowest Nov/2019.

Average Basket Size

month_year	quantity
2018-11	13.50
2018-12	8.42
2019-01	13.39
2019-02	10.68
2019-03	11.59
2019-04	10.90
2019-05	11.13
2019-06	12.37
2019-07	10.72
2019-08	12.74
2019-09	11.49
2019-10	11.44
2019-11	9.54
2019-12	17.84



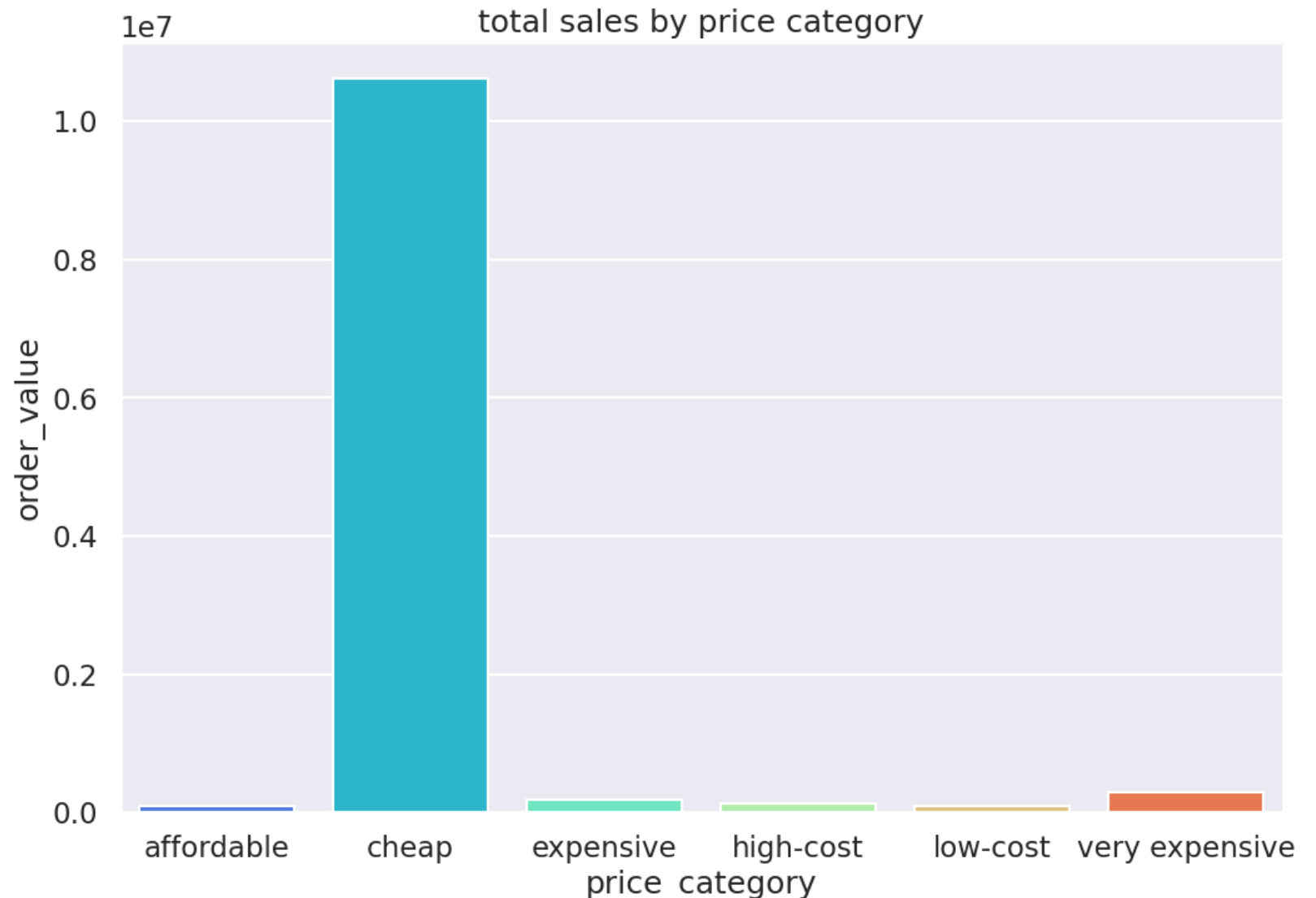
- Average basket size is 11.83.
- Highest average is Dec/2019, indicating increase volume and revenue for this period.
- Lowest in Dec/2018 indicating customers bought products from a higher price category.

Price Category Revenue Percentage

price_category	percentage
cheap	93.17
very expensive	2.55
expensive	1.58
high-cost	1.11
low-cost	0.86
affordable	0.74

The price categories were set as:

- **Cheap** anything less or equal to 50
- **Low-cost** between 51 and 200
- **Affordable** between 201 and 500
- **High-cost** between 501 and 1000
- **Expensive** between 1001 and 5000
- **Very expensive** above 5001



Data Discrepancies

1. Adjusted bad debt

- 3 transactions of 'ADJUSTED BAD DEBT ' were found, all 3 with the same amount within 1 minute difference between them.
- The amount was 11062.06
- Was this customer refunded 3 times by mistake ?

2. Manual

- Product described as 'Manual' found during data analysis
- Are this 'manual' transactions or it is actually a product ?

3. Amazon Fee

- 5 transactions in total were found under the 'Amazon Fee description' total of 249,042.68 and one of them using a different stock code from the others.
- Further investigation of values and procedures as suggestion.

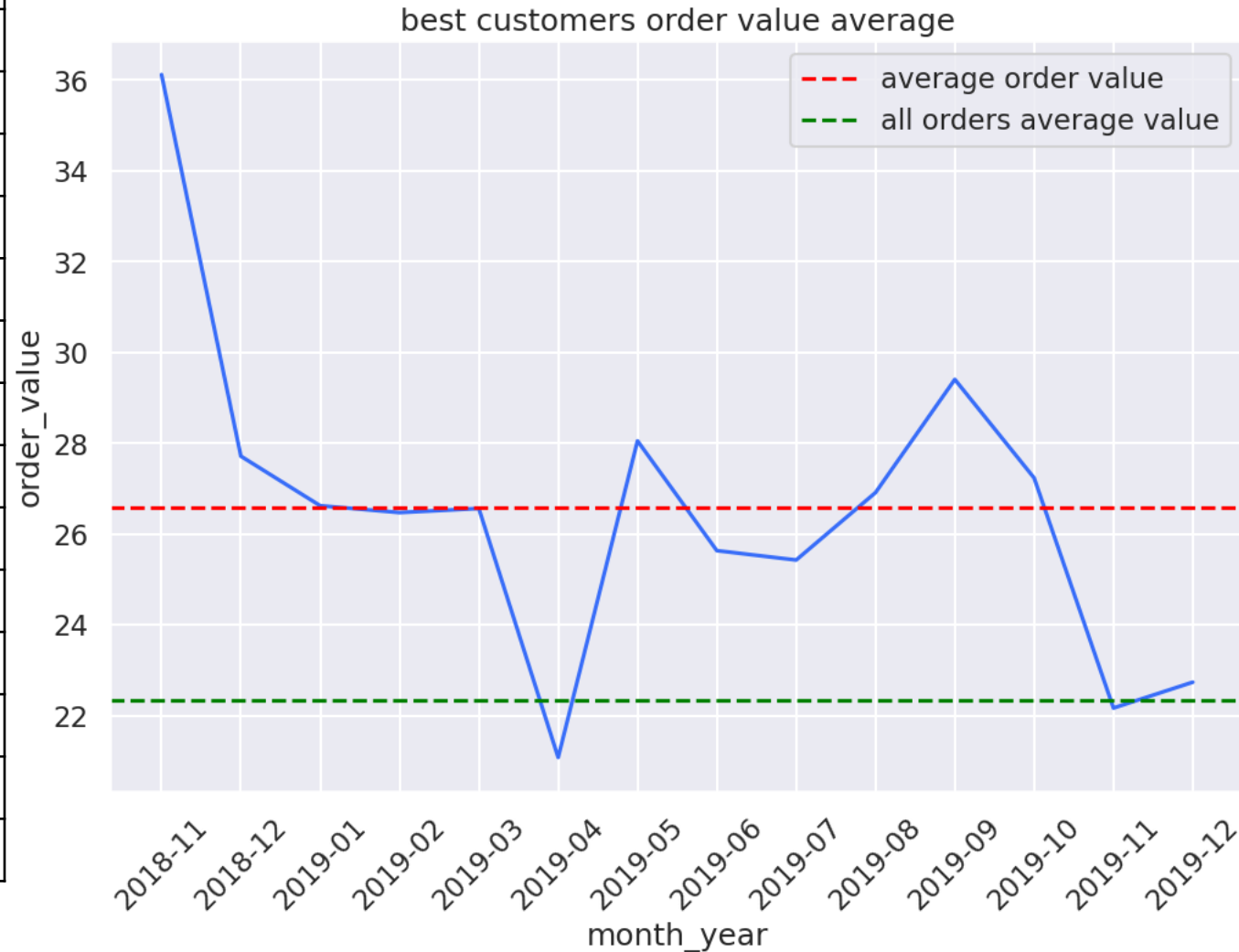
Customer Segmentation Analysis

Customer Segmentation

- **RFM** method based on customer scores was used on this analysis.
- **Recency:** Recency refers to how recent a customer's last purchase was. Customers who have made a recent purchase, still have the product and brand on their minds and are most likely to make a repeat purchase.
- **Frequency:** Frequency is how often the customer makes purchases, which can help you identify repeat customers.
- **Monetary value:** Monetary value refers to how much a customer spends within a given period.
- We divide customers in 6 categories: **Best Customers, Loyal Customers, Big Spenders, Almost Lost Customers, Lost Customers and Lost Cheap Customers**

Best Customers

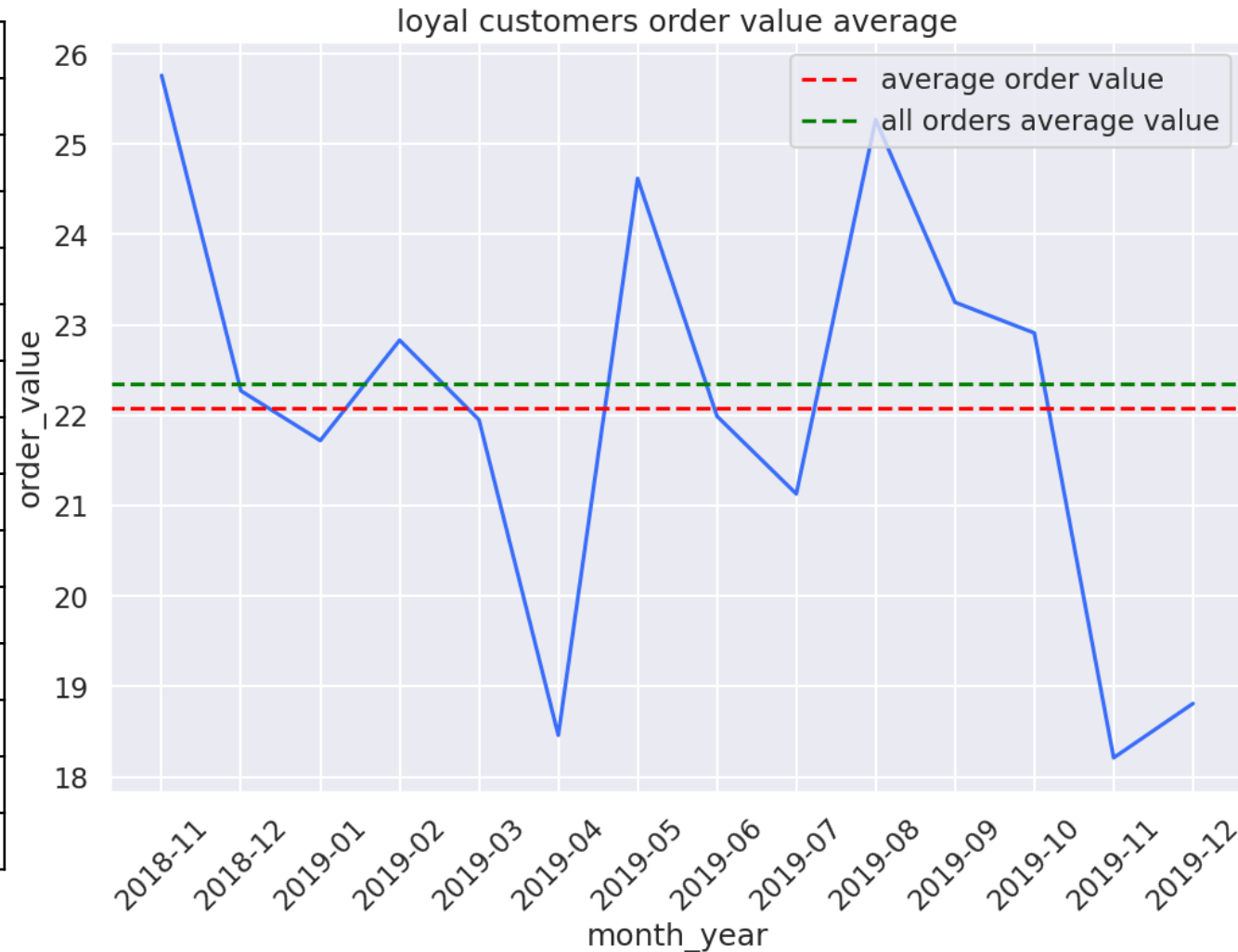
month_year	order_value
2018-11	36.11
2018-12	27.71
2019-01	26.62
2019-02	26.47
2019-03	26.56
2019-04	21.08
2019-05	28.05
2019-06	25.63
2019-07	25.42
2019-08	26.91
2019-09	29.40
2019-10	27.23
2019-11	22.16
2019-12	22.73



- Best customers total: 449, 14% of total customers.
- The lowest point of those customers in April/2019.
- Average Order over Christmas period 2019 not as high as 2018.
- Average of this group higher than all customers average.
- After peak in Nov/2018 the next peak is in September.

Loyal Customers

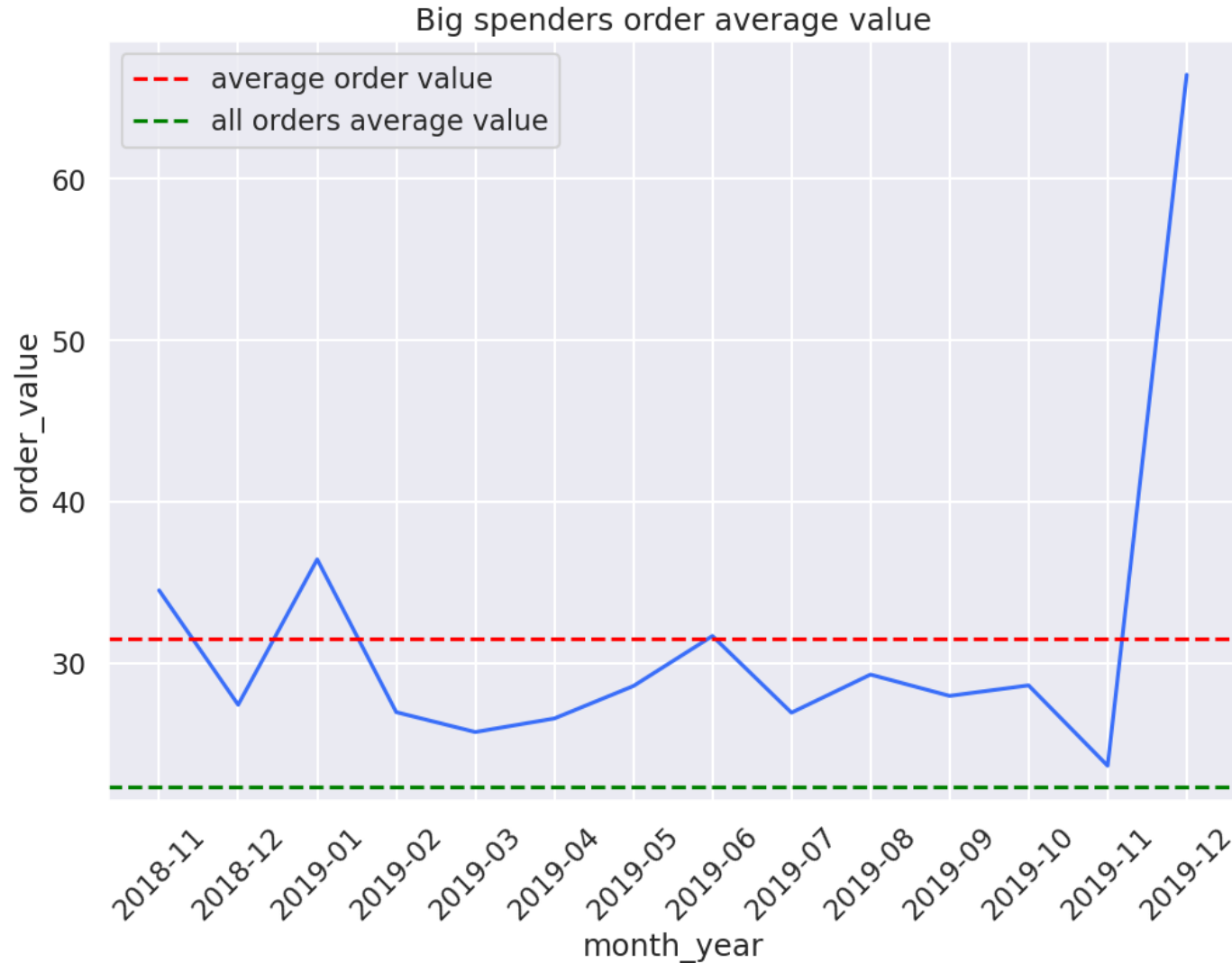
month_year	order_value
2018-11	25.76
2018-12	22.27
2019-01	21.72
2019-02	22.83
2019-03	21.95
2019-04	18.46
2019-05	24.62
2019-06	21.99
2019-07	21.13
2019-08	25.27
2019-09	23.25
2019-10	22.91
2019-11	18.21
2019-12	18.81



- Loyal customers total: 1087, 34% of total customers.
- The lowest point of this customers was April/2019
- 3 average peaks in Nov/2018, May/2019 and Aug/2019
- Average on lowest point in Nov/2019 not showing good recovery in Dec/2019
- Average of this group is similar with all customers average.

Big Spenders

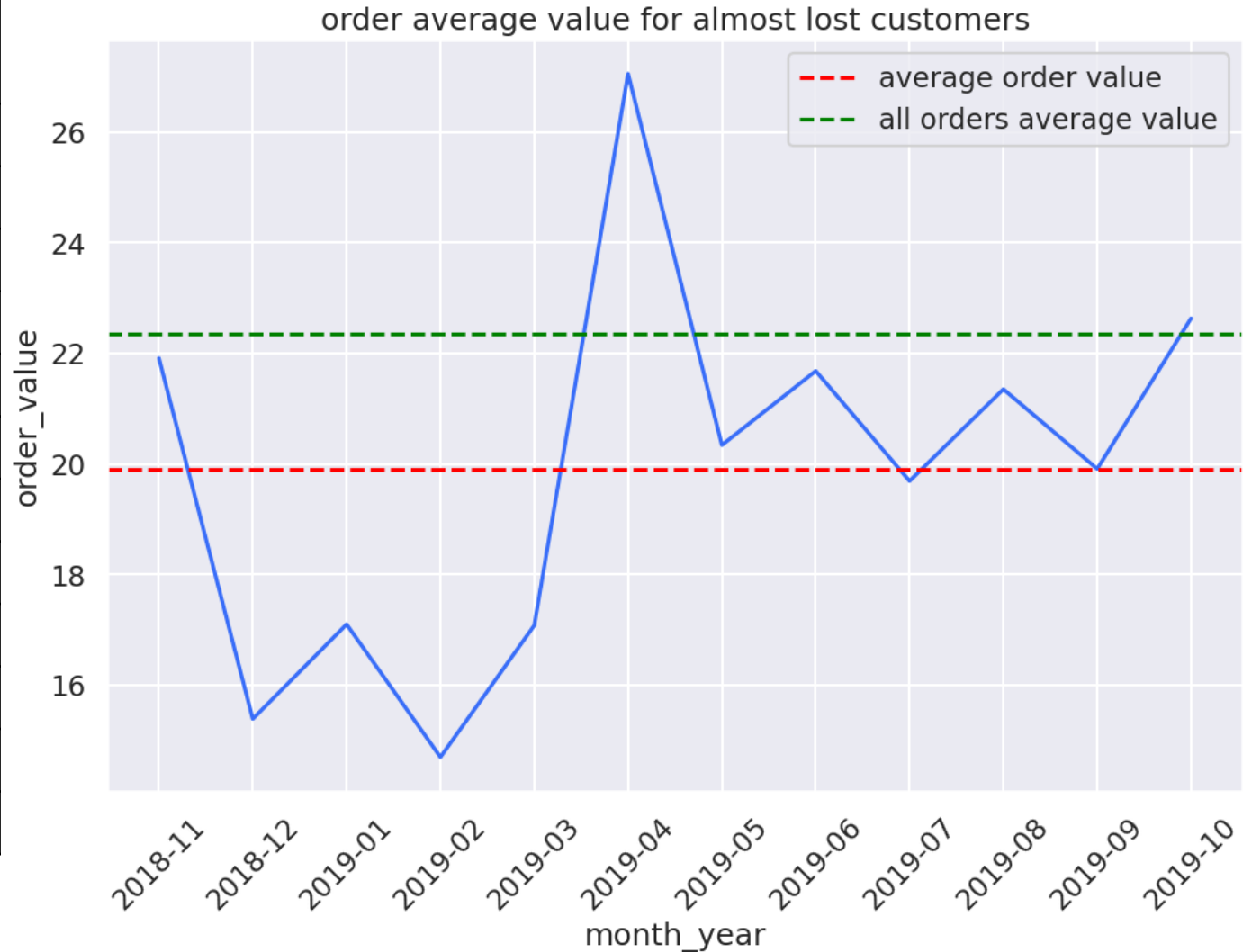
month_year	order_value
2018-11	34.51
2018-12	27.42
2019-01	36.43
2019-02	26.96
2019-03	25.73
2019-04	26.57
2019-05	28.58
2019-06	31.68
2019-07	26.93
2019-08	29.29
2019-09	27.97
2019-10	28.62
2019-11	23.64
2019-12	66.46



- Big spenders customers total: 1092, 34% of total customers.
- Lowest point in Nov/2019.
- Highest point in Dec/2019 indicating customer engagement over Christmas period.
- Average of this group never dropped below all customer average.

Almost Lost Customers

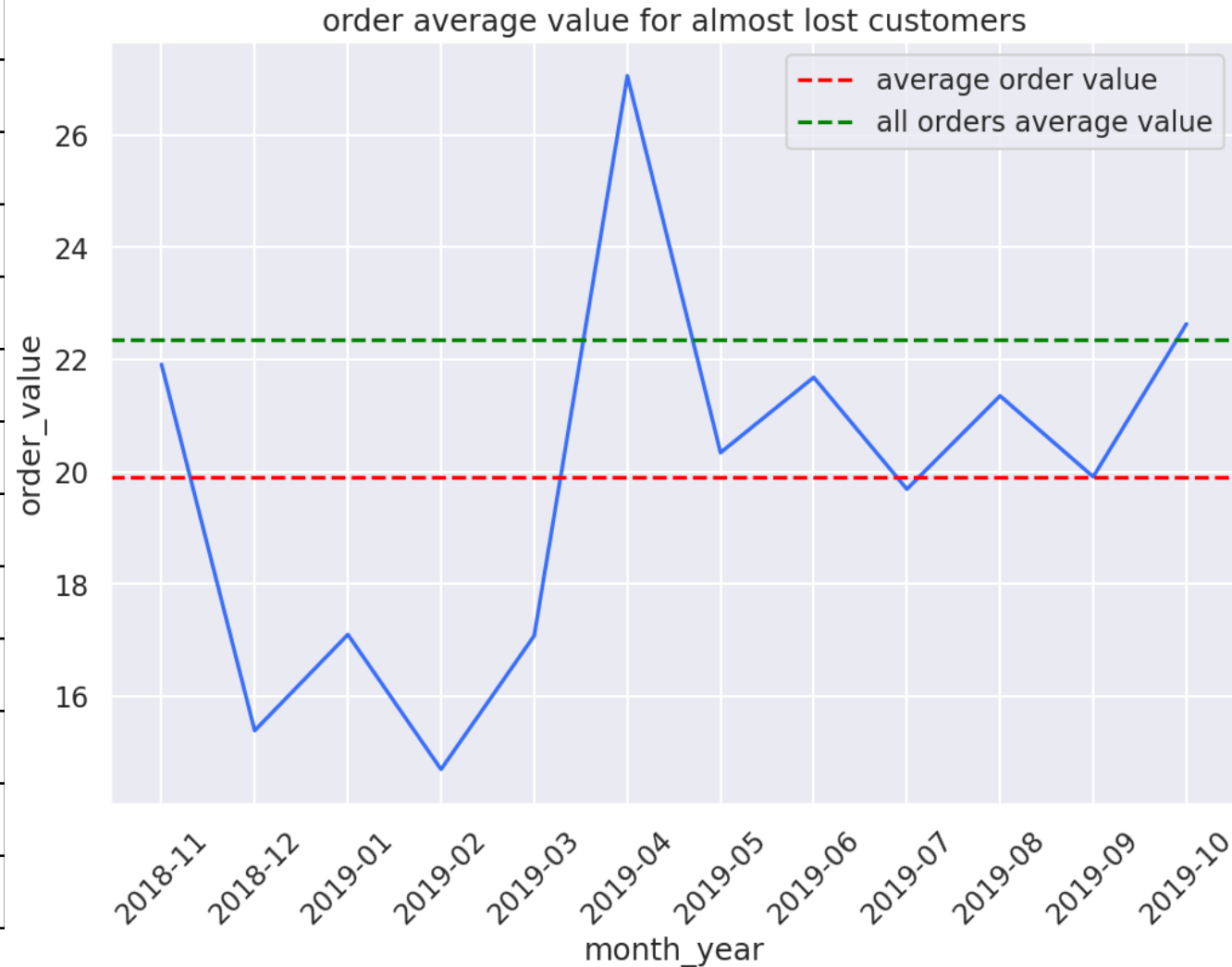
month_year	order_value
2018-11	21.91
2018-12	15.39
2019-01	17.10
2019-02	14.70
2019-03	17.08
2019-04	27.05
2019-05	20.34
2019-06	21.68
2019-07	19.69
2019-08	21.35
2019-09	19.91
2019-10	22.63



- Almost lost customers total:101, 3% of total customers.
- Lowest point in Feb/2019.
- Highest point in April/2019.
- Average under all customers average.
- Records from this customers only until Oct/2019.

Lost Customers

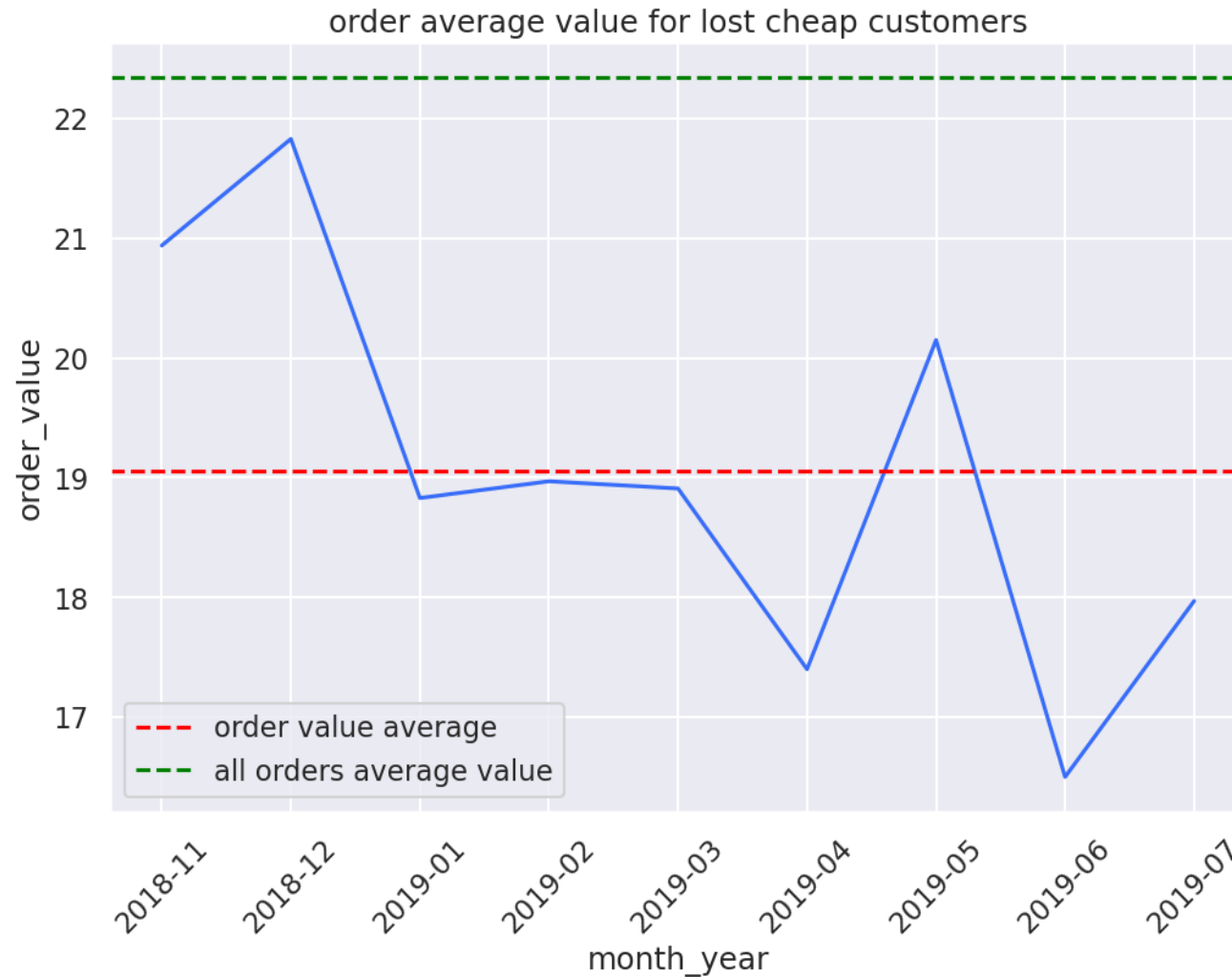
month_year	order_value
2018-11	21.91
2018-12	15.39
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2019-04	27.05
2019-05	20.34
2019-06	21.68
2019-07	19.69
2019-08	21.35
2019-09	19.91
2019-10	22.63



- Lost customers total: 25, 0.7% of total customers.
- Highest point in April/2019.
- Lowest point Feb/2019.
- Order average stabilized after April/2019 indicating good customer experience after this period.
- Oct/2019 average is above all customers average indicating customer potential.
- Records of this customers stop in Oct/2019.

Lost Cheap Customers

month_year	order_value
2018-11	20.94
2018-12	21.83
2019-01	18.83
2019-02	18.97
2019-03	18.91
2019-04	17.40
2019-05	20.15
2019-06	16.50
2019-07	17.97



- Lost cheap customers total: 390, 12% of total customers.
- Highest point in Dec/2018.
- Lowest point Jun/2019.
- There is peak in May/2019. After this peak and highest point sales dropped indicating possible bad customer experience.
- Sales record of this group stop in Jul/2019

Suggested Actions

1. Best Customers

- Best customers were at the highest in November/2018, why the sales are not as high for 2019 data ?
- Marketing and sales department should work close with this customers to create promotions, offer products, exclusive access to new launches to increase sales opportunity on seasonal period.

2. Loyal Customers

- Suggest loyalty rewards, special promotions of expensive items as they figure 1.23% of sales, promotions and rewards to increase revenue of this segment.

Suggested Actions

3. Big spenders

- Big spenders have their average sales and basket size in December/2019 on Christmas period but their lowest is just one month before.
- Marketing and sales department should create opportunities to increase sales on the building months for this period.
- Average basket size was highest of all, are this customers retailing products that they are supplied by us ? Bulk promotions offers could be created.

Suggested Actions

4. Almost lost customers

- Special promotions of expensive items could be created to impulse sales from this segment. Of all segments expensive price category with higher percentage
- What were the events in April/2019 that pushed their order values to a highest ? Easter ?
- Implementation of process to collect as much feedback as possible to understand why the recency is low. From that work on solutions.
- Focus on this segment could push them to best customers' segment.

Suggested Actions

5. Lost customers

- This customers show their highest average on sales and basket size on December/2018, we suggest reach this customers to understand how was their experience on last Christmas.
- The potential of expensive items is also there, should we create offers for them.

6. Lost cheap customers

- Same as lost customers, data show their peak revenue in December/2018, we must understand their experience during that period.
- Offers to increase basket size as this customers prefer cheap and low-cost items to try reengage them.

Any Questions ?

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24/03/2024