

Customer value and satisfaction analysis

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4. : Analytical methods for optimizing relationships with customers

- Customer Lifetime Value (LTV): Predict the total revenue a customer brings over their lifetime
- LTV Improvement Analysis: Consider measures to increase customer lifetime value
- CAC Analysis: Analyze customer acquisition costs and evaluate marketing efficiency
- CS Portfolio Analysis: Analyze customer satisfaction and importance matrix to determine improvement priorities
- Customer Satisfaction Analysis: Use survey and evaluation data to understand the current state of customer satisfaction and areas for improvement
- Sentiment Analysis: Analyze customer emotions and opinions from reviews and social media posts

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Customer analysis

- There are various approaches to customer analysis
- An example of using K-Means clustering to cluster customer data and **identify customer segments**
- Using two features, number of purchases and average purchase amount, K-Means clustering: Visualization allows you to see how customer segments are formed and consider strategies and actions for different segments based on that
- Depending on the actual data and purpose, the methods, features, number of clusters, etc. used may differ → Select the appropriate approach according to the data and goals

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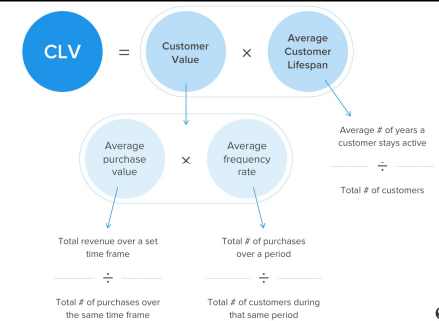


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LTV analysis

- Customer Lifetime Value (LTV) is a metric that evaluates the expected future value that a particular customer will bring to a company.
- An example of LTV analysis in Python uses time-series customer transaction data to calculate LTV.

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LTV analysis

- Calculate the average monthly purchase amount for each customer, and derive the LTV from the difference: Finally, calculate the overall average LTV.
- In LTV analysis, the calculation method may change depending on the nature of the data and transaction history → Select the appropriate analysis method for the specific case

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LTV analysis

- A basic approach to increasing LTV: Increase purchase price, increase purchase frequency, and extend duration
- To increase the unit price, selling in bulk or as a set (cross selling) is effective.
- Rather than selling each package individually, you can increase the unit price per customer by selling in bulk or as a set with other products.
- Upselling to premium lines or higher-end models, and additional services such as gift wrapping also lead to an increase in the unit price per customer.

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CAC

- CAC, the cost to acquire one customer, is an abbreviation for "Customer Acquisition Cost" and is calculated as the cost per customer acquisition.
- $CAC = \text{cost required to acquire a customer} \div \text{number of new customers acquired}$
- The cost required to acquire a customer is the cost of sales activities and advertising/marketing costs: By understanding LTV and CAC, it is possible to implement marketing measures that maximize cost-effectiveness.

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The Modern SaaS P&L

Clear & distinct revenue streams.

Correct COGS dept's. Dictated by revenue streams.

No creativity need here. Just how it is.

SaaS P&L	Jan-22	Feb-22	Mar-22
Subscriptions	300	274	321
Prof. Services	85	90	108
Variable	40	41	48
Managed Services	-	-	-
Hardware	-	-	-
Other	4	0	0
Total Revenue	\$429	\$406	\$477
Support	12	12	10
Services	43	37	45
Transaction	20	21	22
Customer Success	4	4	5
Hardware	-	-	-
Dev Ops	8	7	7
Total COGS	\$87	\$80	\$88
Gross Profit	\$342	\$325	\$383
Margin %	80%	80%	81%
R&D	59	53	64
Sales	94	100	73
Marketing	23	29	31
CGA	75	79	76
Total Operating Expenses	\$252	\$269	\$247

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Customer Segmentation Portfolio Analysis

- Customer Segmentation Portfolio Analysis is a method for classifying customers into different segments and determining strategies and actions for each segment.
- In this example of CS Portfolio Analysis using Python, we use KMeans clustering to segment customers and calculate the average purchase amount and purchase frequency for each segment.

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Customer Segmentation Portfolio Analysis

- KMeans clustering is performed using the number of purchases and the average purchase amount to visualize each segment.
- The final result shows the average number of purchases and the average purchase amount for each segment.
- In CS portfolio analysis, it is important to consider marketing strategies and measures to improve customer experience that are suitable for each segment based on this information.

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Sentiment analysis

- Sentiment analysis is the task of extracting emotions and opinions from text data.
- A basic example of sentiment analysis in Python uses the Natural Language Toolkit (NLTK) and the VADER Sentiment Analyzer.
- First, install the required packages:

```
pip install nltk
```

```
pip install vaderSentiment
```

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Sentiment analysis

- Use the VADER Sentiment Analyzer from the NLTK library to get sentiment scores for text data: Sentiment scores are converted into ratings indicating positive, negative, or neutral.
- This code is a basic sentiment analysis example, a real project will include different factors and data preprocessing: Also, other tools and libraries (e.g. TextBlob, Transformers, etc.) can be used for sentiment analysis.

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