perplexity

How would I calculate LTV?

To calculate **LTV (Customer Lifetime Value)** for your cloud software (SaaS) business, you estimate how much total revenue you expect to receive, on average, from a customer over their entire relationship with your company.

Step-by-Step Calculation of Customer Lifetime Value (LTV)

1. Find Your Average Revenue Per Account (ARPA)

Divide your total revenue in a period by the number of customers in that period.
For SaaS, this can be monthly (MRR) or annual (ARR):

$$\text{ARPA} = \frac{\text{Total Revenue in Period}}{\text{Number of Customers in Period}}$$

- Example: If you make $100,000/month from 200 customers:
  ARPA = $100,000 / 200 = **$500 per month**

2. Determine Gross Margin (%)

Subtract your cost of goods sold (hosting, support, etc.) from revenue, then divide by revenue.

$$\text{Gross Margin } (\backslash\%) = \frac{\text{Revenue} - \text{COGS}}{\text{Revenue}}$$

- Example: If your margin is 80%, use **0.8**.

3. Calculate Customer Churn Rate

Churn Rate is the percentage of paying customers you lose each month.

$$\text{Monthly Churn Rate} = \frac{\text{Customers Lost in Period}}{\text{Customers at Start of Period}}$$

- Example: If you start with 200 customers and lose 10 in a month,
  Churn Rate = 10/200 = **0.05 or 5% per month**

4. Compute the Average Customer Lifetime

$$\text{Average Customer Lifetime} = \frac{1}{\text{Churn Rate}}$$

- Example: Churn Rate = 5% ⇒ Average Lifetime = 1 / 0.05 = **20 months**

5. LTV Formula

$$\text{LTV} = \text{ARPA} \times \text{Gross Margin (\textbackslash\%)} \times \text{Customer Lifetime}$$

Or, combining above:

$$LTV = \frac{\text{ARPA} \times \text{Gross Margin (\textbackslash\%)}}{\text{Churn Rate}}$$

Sample Calculation

- ARPA (monthly): $500
- Gross Margin: 0.8 (80%)
- Monthly Churn Rate: 0.05 (5%)

$$LTV = \frac{500 \times 0.8}{0.05} = \frac{400}{0.05} = \$8,000$$

The expected LTV per customer is **$8,000**.

Key points and tips

- **Use gross margin** (not just revenue) for accuracy in SaaS LTV.
- **Churn rate** is the most sensitive input—small errors here can bigly impact LTV.
- Calculate LTV for different segments (Small Biz, Enterprise) if they behave differently.
- SaaS companies often track LTV:CAC ratio; **3:1 is considered "healthy"**.

Short formula (monthly):

$$\text{LTV} = \frac{\text{Average monthly revenue per account} \times \text{Gross margin}}{\text{Monthly churn rate}}$$

Use this to guide pricing, budgeting, and growth investments!