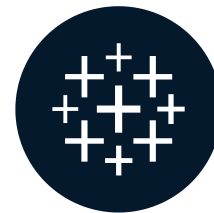


# Introduction to LTV

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**Mariam Ibrahim**

Managing Data Analyst, IBM

# LTV

LTV stands for **LifeTime Value**

- How much a customer is worth to a company over the customer's lifetime
- Also written as CLTV (customer lifetime value)
- **Lifetime:** how long a customer purchases from a company
- 5 years
- 100 USD/year
- $LTV = 5 \text{ years} \times 100 \text{ USD /year} = 500 \text{ USD}$

# LTV Formulas

$$LTV = \text{price (annual, monthly)} \times \text{average lifetime}$$

- Average lifetime is the number of periods the average customer purchases for (same unit as price)

$$LTV = \frac{\text{average revenue per customer}}{\text{churn rate}}$$

$$LTV = \frac{\text{total revenue} / \text{total number of customers}}{\text{churn rate}}$$

# Churn

**Churn:** rate at which customers stop purchasing

- Healthy software business: churn rate ~3 - 8%
- Varies significantly by industry
- Marketing analysts will often examine typical customer purchase patterns to identify a churn window



**Membership-based businesses:** any cancellation typically considered to churn

# Cohorts

Let's return to our formulas briefly:

**Each formula contains an average**

$$LTV = \text{price (annual, monthly)} \times \text{average lifetime}$$

$$LTV = \frac{\text{average revenue per customer}}{\text{churn rate}}$$

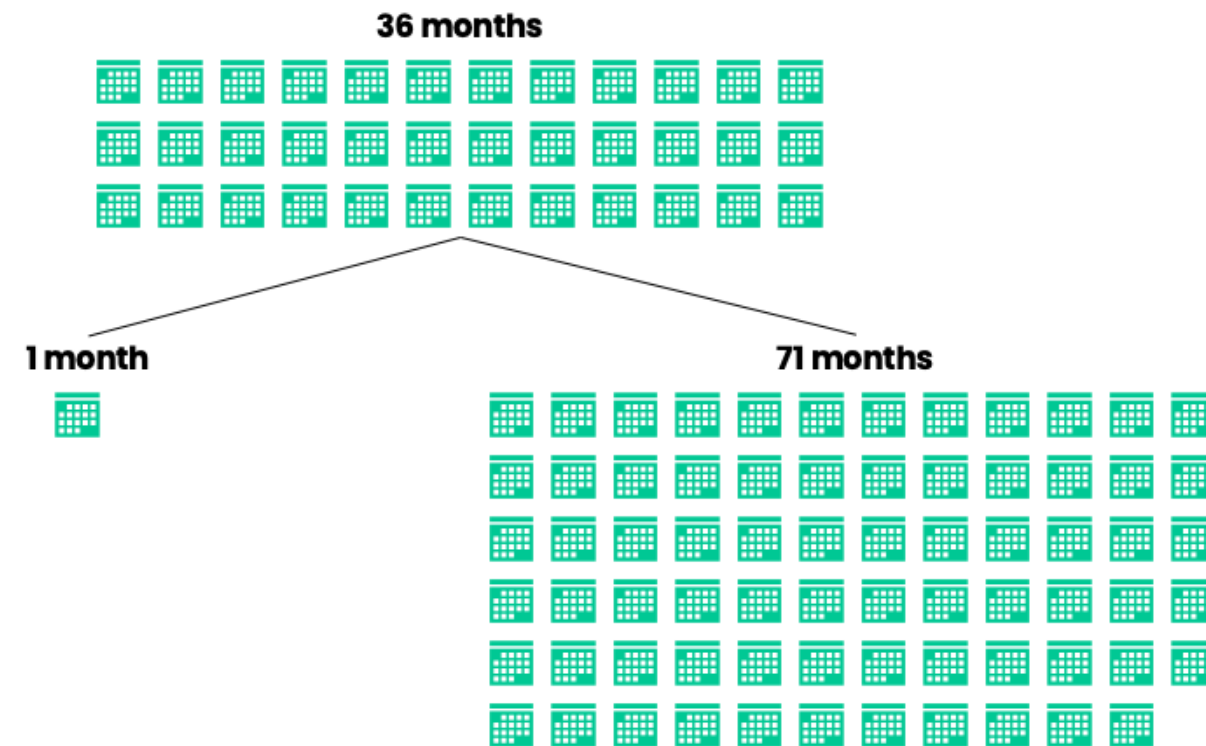
$$LTV = \frac{\text{total revenue} / \text{total number of customers}}{\text{churn rate}}$$

**Cohort:** a group of customers who behave similarly

- E.g. Do cohorts with higher average spend join via a specific marketing channel?

# Cohorts: lifespan example

- Average lifetime of a customer for a boutique fitness studio is 36 months
- Two cohorts: one signing up for 1 month, and another for 71 months



Marketing analysts look at **cohort analyses** in addition to calculating LTV

# LTV/CAC

- LTV/CAC
  - Metric for return on investment (ROI)
- CAC stands for **Customer Acquisition Cost**
- CAC: marketing spend, on average, to acquire new customer
- $\frac{LTV}{CAC} > 1$ : customers bring more value than their acquisition cost

We'll review CAC in next section

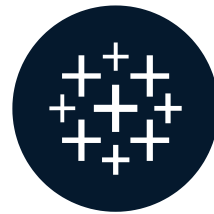
# Let's practice!

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# DATEDIFF and DATEPARSE

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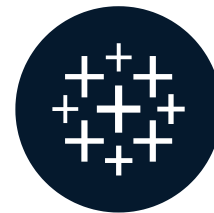
**Full Name**  
Instructor

# Let's practice!

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# Introduction to CAC

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**Maarten Van den Broeck**

Senior Content Developer at DataCamp

# What is CAC?

CAC = Customer Acquisition Cost

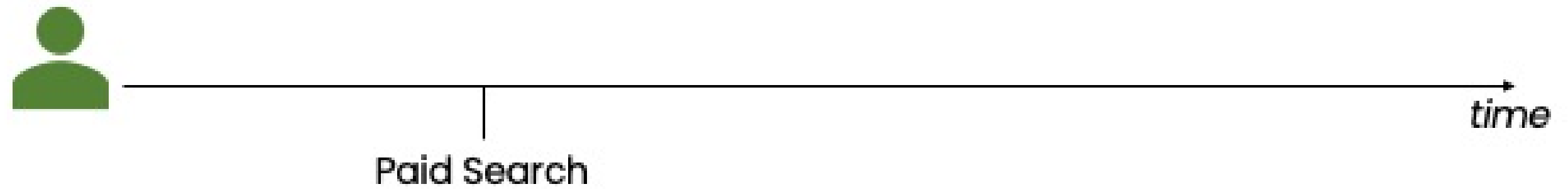
The amount of money a company needs to spend, on average, to acquire a new customer

- Typically calculated by marketing departments
- Includes
  - Money marketing spends
  - Spend from outside marketing, like salaries for a sales team and rent on stores

# CAC formula

$$CAC = \frac{\text{Total paid marketing spend}}{\text{Total number of new customers}}$$

# Example: two-touch journey



# Example: two-touch journey



# Example: two-touch journey





# CAC by industry



## B2C (*Business to Consumer*)

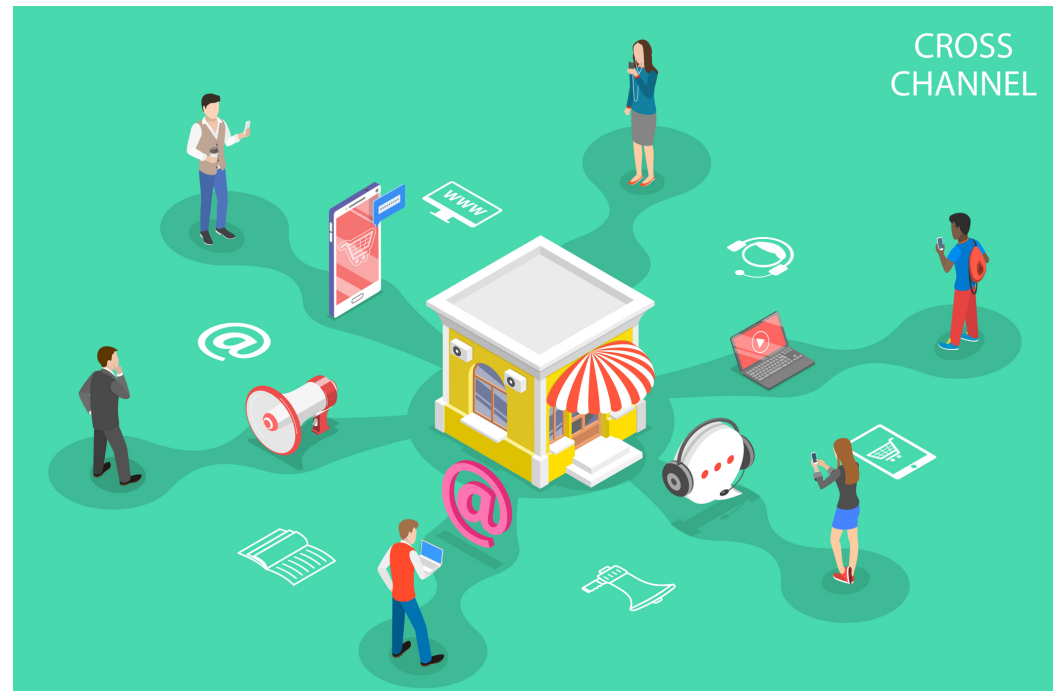
- E-Commerce, retail
- Lower CAC
- 20 USD - 30 USD for well-run operations

## B2B (*Business to Business*)

- Corporate law, commercial real estate
- Higher CAC
- Thousands of dollars

<sup>1</sup> <https://growth-division.com/growth-marketing/typical-customer-acquisition-costs/>

# Marketing spend by industry



Marketing Spend ~ 10% of Revenue

*Some industries spend above average, others below*

# Marketing spend by industry

Industries > 10% on average:

- Retail
- Consumer packaged goods
- Healthcare/pharmaceuticals

Industries < 10% on average:

- Education
- Energy
- Transportation

# What's not in CAC

1. Email and organic
2. Overhead for paid channels

*Overhead consists of costs required to launch marketing outside of the cost to run the ad itself*

- This includes employees who write and manage content
- For most businesses, overhead costs are very small compared to the cost of running ads
  - Might not be the case for a small start-up

# LTV/CAC

- **LTV**: measure of average customer's worth in terms of revenue
- **CAC**: measure of cost to acquire a customer

If LTV = CAC...

$$\frac{LTV}{CAC} = 1$$

*Average cost to acquire a customer = average revenue a customer is worth*

If average customer **lifetime value** is 1,000 USD and **customer acquisition cost** is 250 USD...

$$\frac{LTV}{CAC} = 4$$

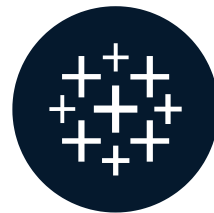
*This tells us that every dollar we invest in acquiring a customer yields 4 USD over that customer's lifetime*

# Let's practice!

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# Unioned data

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# Let's practice!

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# Wrap-up video

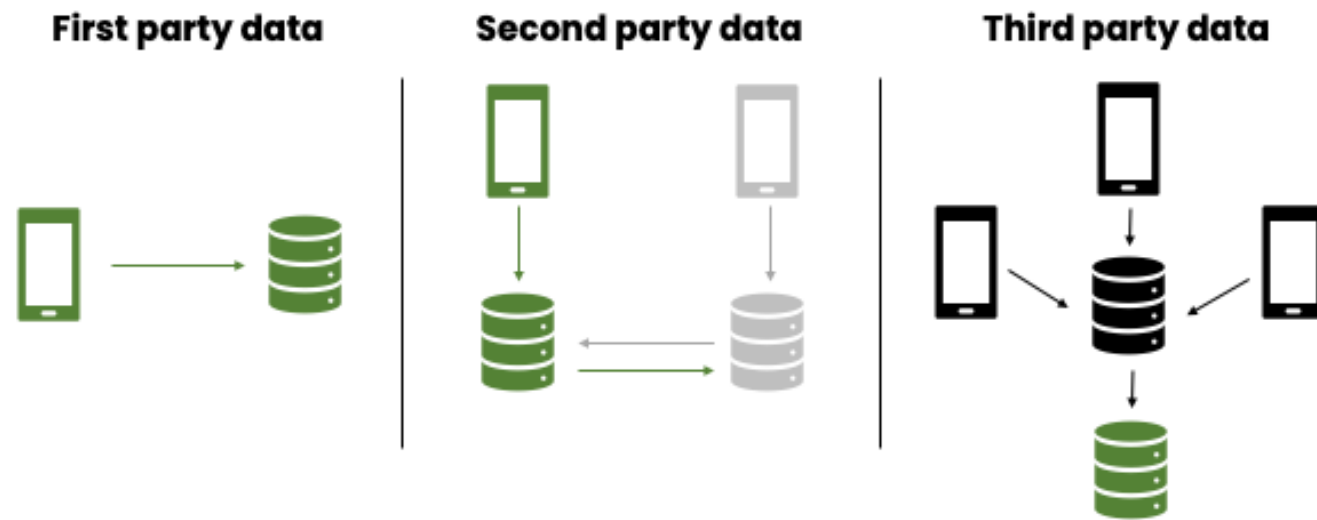
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# Chapter 1



## Technology

- Cookies
- Customer identification

## Digital Marketing

- Journeys
- First and last touch attribution

# Chapter 2

## Email

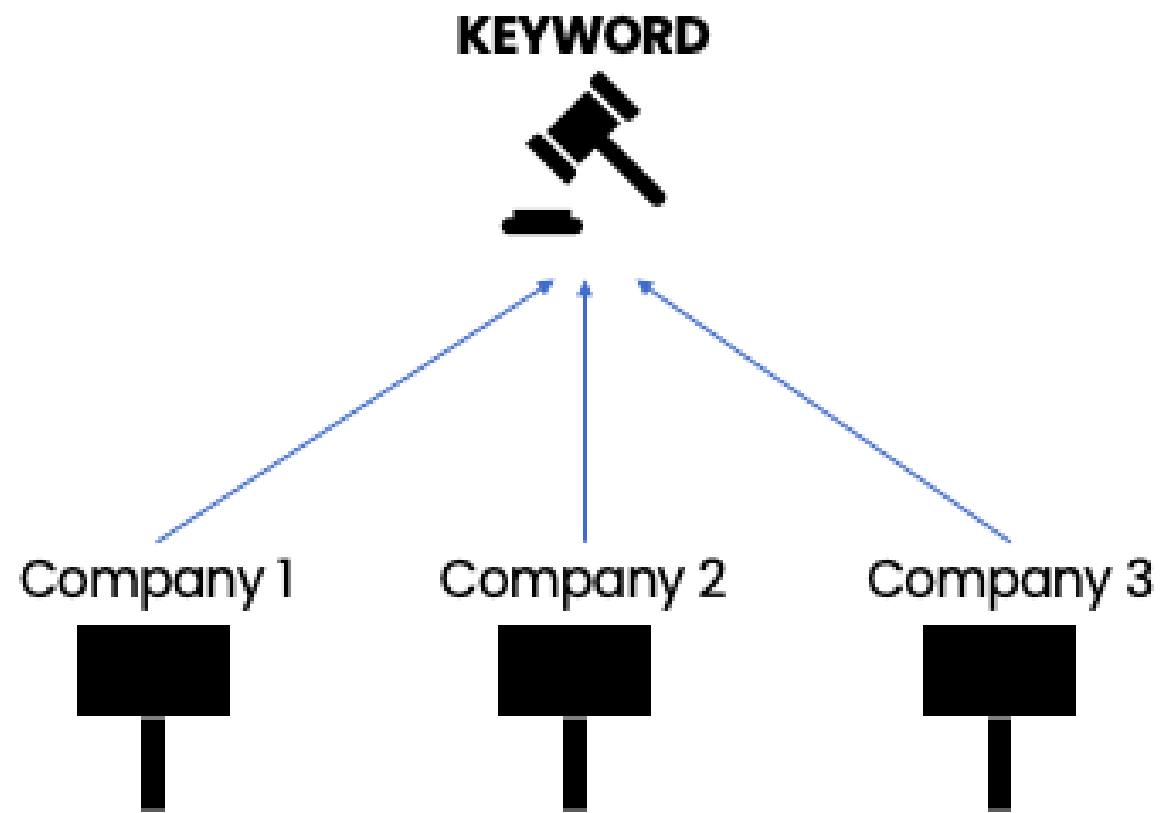
- Funnel
- Click-through rate
- Open rate

## Social

- Creatives
- A/B testing



# Chapter 3



## Paid Search

- Keyword
- Ad group
- Unbranded vs. branded search

## Organic

- Engagement rate
- Correlation with paid traffic

# Chapter 4

## LTV

- Churn rate
- Order Size

## CAC

- By channel
- In aggregate

## LTV/CAC



# Marketing analytics

- Overall marketing performance (LTV/CAC)
- Customer-centric approach (journeys)
- Channel-specific deep-dive

# Other courses

## Marketing Analytics

- [Marketing Analytics for Business](#)
- [Marketing Analytics with R](#)
- [Marketing Analytics with Python](#)

# Congratulations!

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