

To determine the Lifetime Value (LTV) of customers acquired through each channel, you need to follow a structured approach using available customer and marketing data. Here's how to calculate it:

Formula for Customer Lifetime Value (LTV):

$LTV = (\text{Average Purchase Value}) \times (\text{Average Purchase Frequency}) \times (\text{Customer Lifetime})$

Steps to Calculate LTV per Channel:

1. Segment Customers by Acquisition Channel

Example channels: Google Ads, Facebook, LinkedIn, Organic Search, Referrals, etc.

2. Collect Key Metrics per Channel:

o Average Purchase Value = Total revenue from channel / Number of purchases

o Purchase Frequency = Number of purchases / Number of customers

o Customer Lifetime = Average time customers remain active (months or years)

3. Calculate LTV for Each Channel:

Plug values into the LTV formula for each acquisition channel.

Channel	Avg Purchase Value	Purchase Frequency	Customer Lifetime (yrs)	LTV
Google Ads	\$120	3	2	\$720
Facebook Ads	\$90	2	3	\$540
Organic Search	\$110	4	3	\$1,320
Referrals	\$100	5	2.5	\$1,250



Optional Enhancements:

- Subtract Customer Acquisition Cost (CAC) to get Net LTV
- Use cohort analysis to validate LTV trends over time
- Factor in churn rate or use predictive modeling for more accuracy





Assignment Background

RetailFusion Inc. is a mid-sized U.S.-based retail company that specializes in health, wellness, and personal care products. With over 250,000 customers and operations across multiple states, the company sells both online and offline, leveraging digital marketing campaigns and data-driven insights to boost growth.

Over the past one year, the company has run several digital marketing campaigns across platforms like Facebook, Instagram, YouTube, LinkedIn, and Programmatic Ads. They've also maintained detailed records of customer demographics, sales transactions, and advertising performance.

Now, the company is looking to optimize marketing spend, improve customer retention, and boost overall sales performance through deeper data analysis.

As a data analyst, you have been given access to the following real-world datasets:

-  Customer Master Data – Includes demographics, income, location, and monthly spending
-  Sales Transaction Data – Tracks the product-level purchases and timestamps
-  Marketing Channel Data – Performance data from 6 different digital ad channels
-  Business Rules & KPIs – Provided for cleaning, transformation, and metric definitions

Your Mission

You are required to clean, transform, analyze, and visualize the data in Excel. Your objectives include:

- Data Cleaning & Transformations
- Understanding customer behaviour and sales trends
- Evaluating marketing channel effectiveness
- Calculating metrics like ROI, LTV, CPA, and conversion rates
- Designing dashboards for executives to track KPIs
- Recommending strategies based on your analysis

This assignment will help simulate a real-time analytics role at a data-driven retail company and prepare you for professional business intelligence tasks.

Excel Assignment Plan: From Basics to Advanced