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How to leverage Data for eCommerce Business growth

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Abstract

The current environment where organizations act is strongly affected by technological transformation, market volatility, and instability, and being provided with solutions that allow them to understand and act on time is a success factor for the achievement of important goals.

This work, in particular, has a focus on Online Retail and how the integration of Business Intelligence Frameworks can benefit the decision-making processes to achieve business goals.

The thesis is supported by a practical application of this study on real eCommerce businesses through the work made by Hybrida Marketing Srl - a Growth Agency for eCommerce businesses that I founded.

We worked with more than 30 eCommerce businesses and helped them grow through data analysis and rapid experimentation. From this experience, we've learned that growth is done through a series of right decisions made by a scientific analysis of data. In this thesis, I'm going to explain how people can increment the percentage of right decisions through the use of data, technology, and mathematical models.

I'm going to describe the process, the KPI's, the real case studies, and the strategy to transform growth from a guessing game into a scientific system that can be replicable.

EXPERIENCE

According to research done by Hybrida and me, on more than 30 eCommerce with a revenue range between 5k € /month up to 1,8 Million €/month, we discovered that the most frequent problem on eCommerce Businesses is getting stuck in a local optimum.

After a first launch the phenomenon is that eCommerce aren't able to grow above 30-70k/month due a lack of decision making process.

The starting point of my thesis is based on 3 fundamental pillars:

- The importance of data-driven decision-making processes for eCommerce businesses. In particular, the problems and the benefits caused by the lack of this process, and best practices applied.
- The collection, transformation, and presentation of data into real applicable insights. We are going to cover the phenomenon of Data Silos, and how it could cause problems of inconsistent data and wrong insights.
- Mathematical Model Design: how to describe phenomena with the usage of math language, how to forecast performance KPI, and how to optimize the variables we can control to achieve the best results.

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GLOSSARY

To comprehend properly the following thesis, in the following lines we find the key terms we are about to discuss.

The followings are KPI's terms for the eCommerce industry:

CR = Conversion Rate

CPC = Cost per Click

AOV = Average order value

LTV = Lifetime Value

COGS = Cost of goods sold

CAC = Customer Acquisition Cost

CPA = Cost per Action

CPM = Cost per Mille impressions

CTR = Click through rate

Frequency of purchase = Average number of orders per client

Introduction

OVERVIEW ON DTC

The Direct To Consumer Brand into the Online Retail (digital to real)

Direct-to-Customer is one of the common marketing approaches with many manufacturers, which involves the promotion of goods and services straight to the consumer.

The process disallows the presence of intermediaries, and therefore, common advertising agencies such as the radio and television do not apply in the approach.

This form of marketing has been common to many small and medium-size businesses who do not have the financial muscle to compete with large organizations in the market due to little brand recognition and inadequate advertising budgets.

The beginning of direct marketing originates back from the trade catalog, which was common in the 18th century.

The trading technique was common because the business did not have alternative means of advertisement, and therefore, they preferred to trade their goods directly to their customers.

One of the first direct marketing launched in the market involved a list of books sent to potential customers in Venice in the early 15th century.

Following their success in convincing their customers to purchase the merchandise, the approach was absorbed in other countries as a means of marketing.

For example, in the United States, during the 19th and 20th centuries, business manufacturers such as Yankee peddlers operated a door-to-door marketing approach, which resulted in the industry's growth.

They were able to convince their customers to purchase their products and thus the increase in sales.

Nevertheless, as the years progress, technology has advanced, and therefore most of the first have been able to benefit from direct marketing capabilities postulated by the internet.

The D2C Model

It is appropriate to note that modern direct-to-customer marketing is different from the traditional wholesale strategy.

For instance, most brands today partner with their retailers to distribute their products, which is critical because it helps them generate bulk sales from these retailers.

However, traditionally, firms used to bank on their wholesalers as the main connection between them and retailers.

Nonetheless, both traditional and modern direct-to-customer strategies commonly apply to many brick-and-mortar stores in different online marketplaces.

Irrespective, the popularity of modern internet marketing skills has played a major role in enhancing e-commerce, which has significantly improved most D2C businesses.

Most of the popular brands in the 20-21th century gained their direct-to-customer recognition by recognizing the power of the internet.

For example, the majority of them were able to incorporate online systems such as Warby Parker, Casper, Dollar Shave Clubs, among others.

On the other hand, other firms incorporating a direct-to-customer approach could open various physical retail shops whereby customers would visit and purchase the product.

However, most of these open physical stores were opened close to the business e-commerce brick and mortar store

Therefore, it is appropriate for any business pursuing this business strategy to be aware of the digital platforms available today because it will increase their brand awareness and customer base.

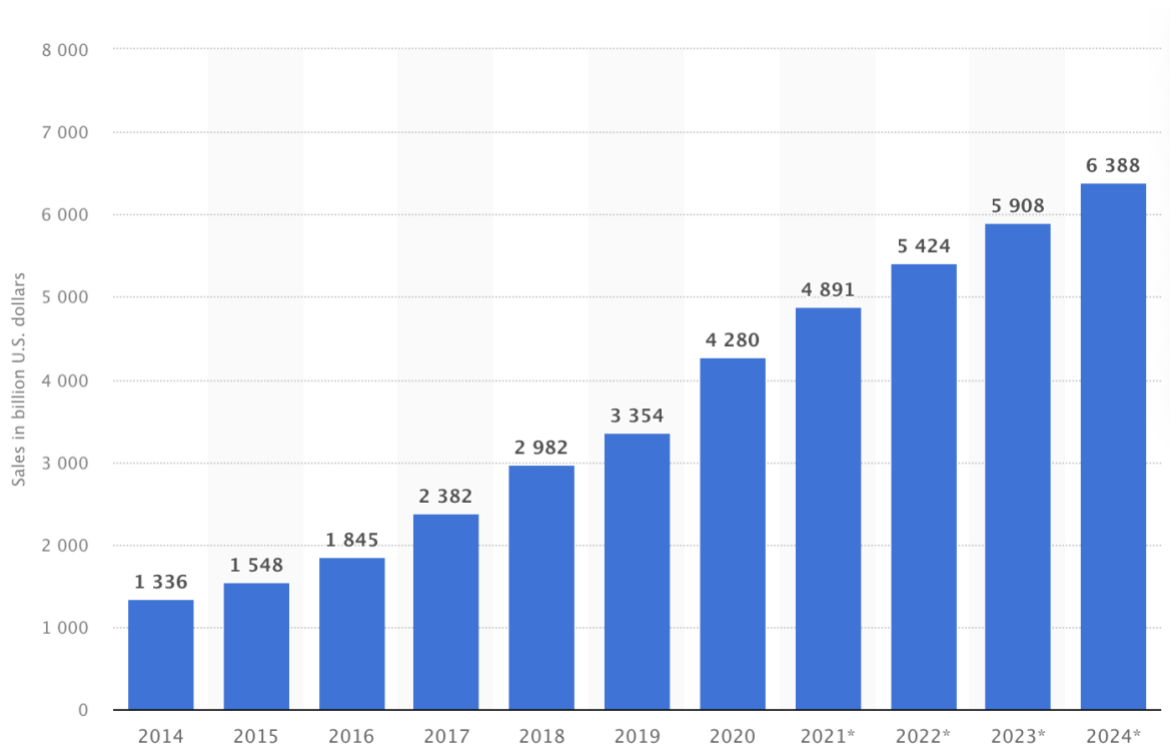
As a result, they will be able to increase their client base, number of orders and generate growth.

It is appropriate to note that the modern D2C model is popular because of the increased online accessibility of information. For instance, according to [Ballestar et al. \(2018\)](#), more people intend to purchase personal electronics, and sales account for at least 50 percent of the people engaging in the business.

Nonetheless, other industry sectors such as fashion and accessories will only account for 33 percent of the total items merchandised on online platforms.

Irrespective of the differences, modern online shopping has grown to become one of the largest in recent years.

According to [statista.com](#) the eCommerce industry grew 460% since 2014 and became one of the fastest-growing markets of the 21st century



The reasons behind this growth are described by the ability of agile communication and ease of purchase from the consumer point of view.

For instance, many people prefer to purchase their product online because it is quick and convenient.

Further, it is cost-effective since the customer does not need to go all the way to a retail outlet to pick their products. On the other hand, customers have the opportunity to compare different prices quickly across different brands sold by retailers.

As a result, most of them would forfeit going to a physical shop because they will not have the opportunity to compare prices, and also, it will be time-consuming for them, particularly if the physical store is located far from them.

Traditionally, wholesales used to relinquish their products only when they were able to sell their products in bulk.

On the other hand, retailers and distributors are tasked with the responsibility of selling the products to the final consumer.

The strategy is appropriate because it facilitates the listing of the product on different online platforms based on what is available in the store.

Additionally, the strategy is appropriate because it enables retailers to set their prices and promote the product based on their preferences.

The ability to own and manage a personal store plays a major role in the business because it allows retailers to regulate what their customers see.

Since most of the businesses operating in the D2C platform manage their web stores, the ability to regulate what their customers see also enables them to collect consumer data based on their preferences, and thus, it is easier for them to analyze what they need to stock in their online web store.

Above all these, the direct-to-customer marketing approach provides retailers with a clear communication channel between manufacturers and consumers.

The interaction is appropriate for the business because it helps them build loyalty, understand their consumer preferences, and generate more repeating customers.

Further, it also means that the business has to organize for product delivery to different customers worldwide, which might be difficult.

In the online industry, the real game-changing particular is the fact that everything is trackable.

Knowing the customer with its behavior, beliefs, and problems is essential for a good business to work and the online industry allows any business, even with a low budget, to collect all the information's about their clients that can be used in the decision making process.

A lot of businesses during the past 10 years leveraged this opportunity to create real financial operations worth millions or even billions of dollars:

- Casper - Valuation 1,1 Billion dollars
- Dollar Shave Club - Valuation 1 Billion dollars

Dollar Shave Club is an eCommerce that sells shave blades with a subscription business model and its offer starts at 1\$/week

They understood the potential of offer personalization and was one of the first successful eCommerce to implement a strategy composed by:

- Acquisition through awesome ads like this one [>>>Click here to watch<<](#)
- Survey to understand customer's needs, problems, the price range of the offer that the potential customer will accept, frequency of shaves,...
- Automatic proposal of the best offer for their client

Born in 2011, in 2015 they grew up to 152 million dollars of revenue and sold to Unilever at an evaluation of 1 Billion dollars.

Casper as a startup that sells mattresses, was able, through their research, to understand who would be their best target. Understood that with all the niches, the millennials in big cities were the best target to sponsor on because they were the most frenetic, with a super-fast life, they were the segment with the highest percentage of sleep problems, and had the lowest time available to go to a shop and buy a mattress.

They started in 2014 and now they make 497 Million dollars per Year

The possibility to collect data, learn from it and base the business decisions off of them is available to every eCommerce owner and has been leveraged to generate business growth.

The biggest problem for DTC businesses

- Why do eCommerce businesses stop growing?

The direct-to-consumer industry has created the opportunity for small and medium companies to leverage their consumer's data to grow faster than ever before.

The opportunity exists but its application fails.

Most of the eCommerce businesses that start, soon after get stuck in a local optimum and don't know how to generate growth.

According to research made by Hybrida on its clients, when marketers start buying traffic through advertising from more than 2 sources, start operating with the emails to increase the LTV and the eCommerce is making revenue between 30-70k/month, the eCommerce team has the most difficulties in generating growth and surpassing this barrier.

To surpass it, the eCommerce will need to sell more, or sell at a higher price or even acquire clients at a lower CAC.

It needs to optimize the eCommerce KPI over time.

The key to this problem is learning from customers what are their needs, their problems, their characteristics, their behavior, and this information can help decision-makers to create a product, an offer, and a user experience that would be helpful to clients.

The eCommerce and Online Direct to Consumer Businesses that have truly succeeded are a 3% (according to [Dent](#)) because even though every online direct to consumer brand can track every single customer and behavior online, they are unable to transform this information into applicable insight and effective decisions.

As we saw with Casper and Dollar Shave Club, their success has been attributed to the capacity of deduction on what to sell and how to sell to customers.

In today's world, we have multiple tools that can give us raw data about our customers' behavior but you need to manually match the information, deduct a hypothesis and then execute experiments.

This process takes time no matter what.

Also if you don't have a data scientist inside your team this process has a high probability of conclusion errors.

EXPERIENCE

In Hybrida we developed a process and a technological tool that allows us to create growth curves systematically as we did with:

- [Bewmer](#): From 0 to 20k/month revenue
- Glimmed: From 2500€/month to 40.000€/month of revenue
- [Bialetti Perù](#): 10% average growth month over month
- And other clients that we cannot disclose in this paper for NDA motives

The process that helped us to gain these successes is a deduction of the scientific method applied to eCommerce growth problems.

How to develop a data-driven decision process that generates growth

To understand what a data-driven decision is in the D2C market, we must disclose what are its Key Performance Indicators

- Customer acquisition cost (CAC)
- Average order value (AOV)
- Lifetime value (LTV)
- Cost of good sold (COGS)
- Shipping fee
- transaction fee
- Logistic fee
- Personnel costs
- Technology costs

When an eCommerce wants to grow, it needs to optimize these KPIs

Let's begin from the acquisition:

The CAC is the most important metric for acquisition.

It represents how much the business is going to pay to acquire a new customer.

The CAC in the online market is usually subject to advertising platforms like Facebook ads, Google ads, TikTok ads, Bing ads, Pinterest ads, Twitter ads, TV ads, Radio Spent, ...

To understand better what is these are the two formulas on how it is composed:

$CAC = \text{Advertising budget Spent} / \text{Number of new customers}$

$CAC = \text{Cost per Click} / \text{Conversion Rate}$

These two formulas explain mathematically that the CAC is nonetheless how much we pay for each new customer or how much it costs to bring a customer from an advertising platform to our eCommerce divided by the rate at which we convert these clicks into sales made by new clients.

Let's make an example considering the second formula:

Cost per click (CPC) = 0,3€

Conversion Rate (CR) = 3%

$CAC = 0,3€ / 0,03 = 10€$

With these characteristics, the CAC would be 10€.

These sub metric, are also composed of another layer of variable:

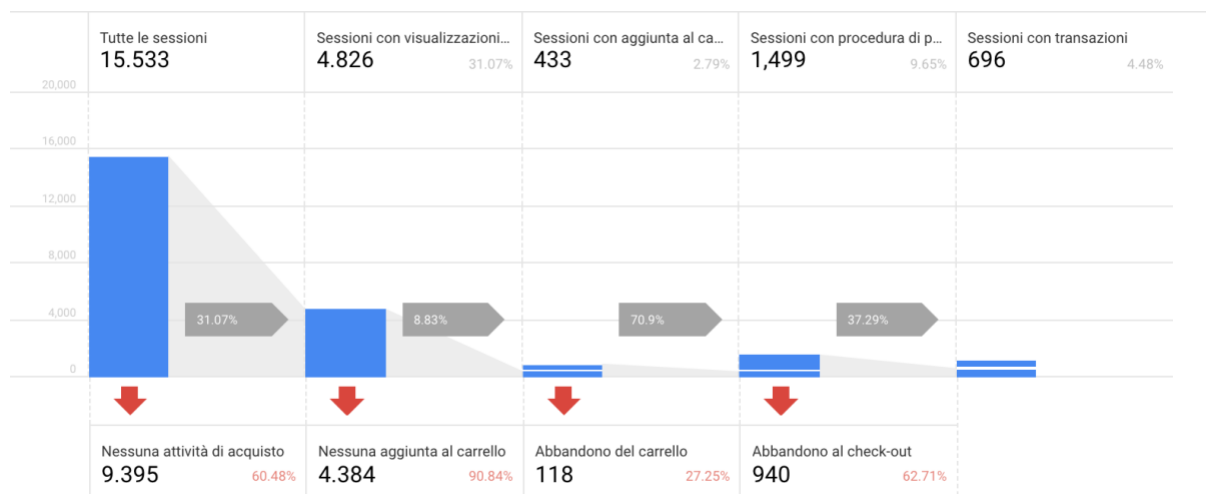
$CPC = CPM / 1000 * CTR$

with

CPM = Cost per mille impressions

CTR = Click through rate = How many people that see the ad, actually click on it.

The CR is a multiplication of the rate at which each step up to the purchase converts users.



From the click to the add to cart

From the add to cart to the checkout

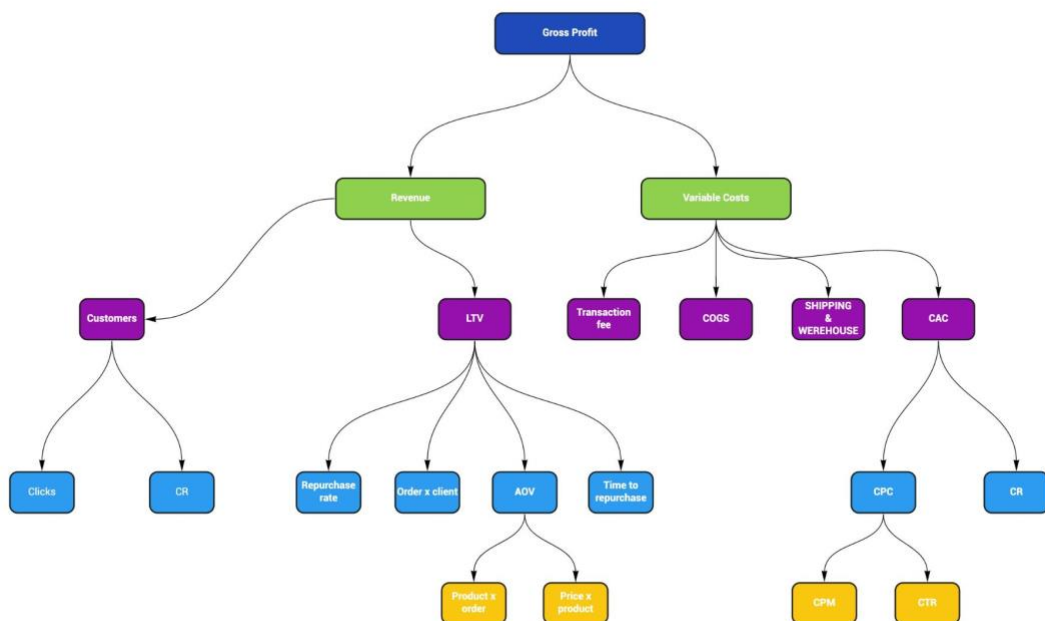
From the checkout to the Purchase.

These formulas help us deduct that CAC is nonetheless:

$$CAC = (CPM / (1000 * CTR)) / CR$$

According to this evidence, if we replicate this process to all the main eCommerce KPIs, this would be the result.

Tree Scheme representation for simplicity:



$$\text{Gross Profit} = \text{Revenue} - \text{Variable Costs}$$

$$\text{Revenue} = \text{Number of Customers} * \text{their Lifetime Value}$$

$$\text{Variable COSTS} = (\text{CAC} + \text{Shipping \& Warehouse} + \text{COGS} + \text{Transaction Fee} * \text{AOV}) * \text{Clients} * \text{Order per Client}$$

$$\text{Clients} * \text{Order per Client}$$

Number of Customers = Clicks * CR

LTV = Customers * Order x Client * AOV

AOV = Number of products per order * Price per product

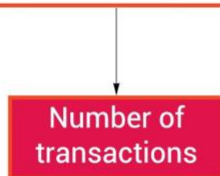
CAC = (CPM/(1000*CTR))/CR

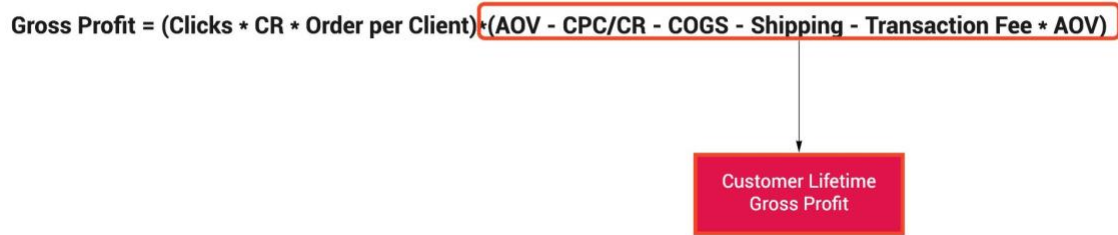
The gross profit formula

The formula resulting to measure gross profit is:

Gross Profit = (Clicks * CR * Order per Client)*(AOV - CPC/CR - COGS - Shipping - Transaction Fee * AOV)

Gross Profit = (Clicks * CR * Order per Client)*(AOV - CPC/CR - COGS - Shipping - Transaction Fee * AOV)





Once you have all the KPI's and the formula that shows you the relationships between the variable and the output KPI (Gross profit in this example) we can quickly:

- See the unhealthy variable
 - Create a Hypothesis on why it is unhealthy
 - Launch experiments to validate our hypothesis
- and start again
- Forecast gross profit, and sales objectives

As a cycle.

THE PROBLEM PT. 2

We just overviewed the data-driven decision process for eCommerce businesses.

Even if this process is applied, there is another problem:

"Having real data that show the main KPIs is not for granted"

The Data-Driven process does not work if we have data that doesn't describe reality.

Most of the tracking tools fail on this task.

The followings are the causes for this problem:

- Data validity
- KPI's Range
- Data Silos
- Dispersion of information

Data validity:

All the data tracked by tracking tools need to be checked and validated for its accuracy.

When you have only one tracking tool it's impossible to validate if the data you are seeing is true or not.

Unless you know exactly how the tracking is made.

With Hybrida we studied how every commonly used tracking tool like:

- Google analytics
- Google ads
- Facebook ads
- Hubspot

tracks data and how it collects it in their database.

KPIs Range:

The tracking tools that most eCommerce uses are based on cookies tracking technology.

Even if it is usually pretty accurate to track pre-purchase customer behavior, it's never accurate to track post-purchase behavior.

It is almost impossible to track:

- LTV
- Purchase Frequency
- Repurchase rate

If a customer eliminates its cookies or purchases again from another device, he will be tracked again as a new customer and not as a recurring customer

The available tracking software lack precision for post-purchase behavior tracking

Data Silos:

When you use multiple tools for customer tracking, you start gaining multiple insights from different sources that do not communicate with each other.

This causes the phenomenon of having mismatching insights between the multiple tracking tools and causes inaccuracy and confusion.

Dispersion of information:

Time is an important metric to consider in the decision-making process.

To generate growth, decisions need to be made quickly.

When you use multiple tracking tools, you need to phase the dispersion of information that forces you to look at multiple dashboards, export data into excel, centralize everything into a sheet, and extrapolate insights.

This process takes time no matter what.

In some cases, it can take up to 2 hours every single day.

Also if you don't have a data scientist inside your team this process has a high probability of conclusion errors.

SOLUTION

In Hybrida we worked to solve this problem by creating Cassandra - the eCommerce Business intelligence tool that helps marketers to make data-driven decisions that lead to growth.

Cassandra is a particular Data Technology applied to eCommerce Businesses that solve the problems of:

- Data validity false track due to incorrect tracking by the tools
- Data Silos and incorrect data due to non-communication of tracking tools
- Dispersion of information and the slow decision-making process.

Let's go step by step:

Cassandra can connect the data that each silo has with one another allowing one to have one single place with all the information required to make a decision.

It collects the data with:

- Data warehouse
- API connectors with the data Silos or Data Sources
- Logic of importing only the right data into the Data Warehouse

I will make an example to make it easier to understand:

We have the following sources:

- CMS: Shopify
- Cookie tracking: Google analytics
- Advertising: Google ads and Facebook ads

Creating an API that connects the data source with our Data Warehouse we request:

- Shopify to extract:

- Orders data with ID order, Customer ID, email, Products purchased, Revenue of the order
- Products data: SKU, Name of the product, COGS
- Shipping Data: Shipping name, Cost of shipping.

- Google analytics to extract:

- Transactions data: Transaction ID, source, medium and campaign, number of sessions (answering the question: from what source, medium, and campaign this transaction came from?)

- Google ads and Facebook ads to extract: Campaign Name, asset/adgroup name, ad name, budget spent, CPM, CTR, CPC, Conversion actions.

In this way, we can collect all the Raw Data required to extrapolate the eCommerce KPI we saw in the section: “DTC Growth’s KPI”.

How to transform raw data into growth’s KPIs

In this chapter, we are going to cover how Cassandra structures automatically data inside a Data Warehouse and how it transforms Raw Data into KPIs and insights.

There are 2 steps in this process:

- Dataset Architecture
- Transformation Queries

How to organize data for centralization

To have real data we need to connect multiple data sources.

Cassandra creates 2 datasets per project:

- Transaction Dataset
- Advertising Dataset

Into the Transaction Dataset we need to connect CMS orders with 'Transaction Data' from Google analytics, extrapolating:

- Only true transactions
- Source, Medium, Campaign, Ad the transaction was made
- orders from a new or recurring clients
- Frequency of purchase of that customer
- LTV of that client

The Dataset would look like this:

web_property_id	ga_campaign	end_date	ga_transactions	ga_medium	ga_transactionid	ga_socialnetwork	ga_keyword	_sdc_tabl
UA-33256145-1	Traffico_LALPurchase180gg	2019-06-05 00:00:00 UTC	1	Cpc	20190605085757651843	(not set)	(not set)	
UA-33256145-1	IT it Search Converters Spedizioni economiche	2019-05-13 00:00:00 UTC	1	cpc	2019051309463704	(not set)	costo spedizione pacco	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-05-13 00:00:00 UTC	1	cpc	2019051313480657	(not set)	+spedire	
UA-33256145-1	IT it Display Retargeting Traffic D&T RLSA	2019-05-14 00:00:00 UTC	1	cpc	2019051408112780	(not set)	(Remarketing/Content targeting)	
UA-33256145-1	IT it Search Converters Brand	2019-05-17 00:00:00 UTC	1	cpc	2019051710073353	(not set)	spedire com	
UA-33256145-1	IT it Search Converters Spedizioni economiche	2019-05-20 00:00:00 UTC	1	cpc	2019052012152384	(not set)	costo spedizione pacco	
UA-33256145-1	IT it Search Converters Spedizioni economiche	2019-05-20 00:00:00 UTC	1	cpc	2019052018474503	(not set)	costo spedizione pacco	
UA-33256145-1	IT it Search Converters Spedizioni economiche	2019-05-23 00:00:00 UTC	1	cpc	2019052316463072	(not set)	costo spedizione pacco	
UA-33256145-1	IT it Search Converters Spedizioni economiche	2019-05-27 00:00:00 UTC	1	cpc	2019052717563517	(not set)	costo spedizione pacco	
UA-33256145-1	IT it Search Retargeting Traffic ALL_D RLSA contatti Spedizioni economiche	2019-05-30 00:00:00 UTC	1	cpc	2019053014245900	(not set)	spedizioni pacchi economiche	
UA-33256145-1	IT it Search Retargeting Traffic ALL_D RLSA non contatti Export	2019-06-03 00:00:00 UTC	1	cpc	2019060320332685	(not set)	+spedire +busta	
UA-33256145-1	IT it Search Acquisition Traffic ALL_D New Users Spedire estero	2019-06-26 00:00:00 UTC	1	cpc	2019062622521201	(not set)	+spedire +estero	
UA-33256145-1	IT it Search Acquisition Traffic ALL_D New Users Export	2019-06-28 00:00:00 UTC	1	cpc	2019062811395526	(not set)	+spedire +Norvegia	
UA-33256145-1	IT it Search Acquisition Traffic ALL_D New Users Spedire estero	2019-07-13 00:00:00 UTC	1	cpc	2019071322155832	(not set)	+spedire +estero	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-07-14 00:00:00 UTC	1	cpc	2019071421200688	(not set)	spedire com	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-08-30 00:00:00 UTC	1	cpc	2019083013513940	(not set)	+spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-09-30 00:00:00 UTC	1	cpc	2019093018030004	(not set)	spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-01 00:00:00 UTC	1	cpc	20191001117132372	(not set)	spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-03 00:00:00 UTC	1	cpc	2019100306415653	(not set)	spedire com	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-03 00:00:00 UTC	1	cpc	2019100310320288	(not set)	spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-08 00:00:00 UTC	1	cpc	2019100814245308	(not set)	spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-14 00:00:00 UTC	1	cpc	2019101403001385	(not set)	spedire com	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-24 00:00:00 UTC	1	cpc	2019102411431687	(not set)	spedire	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-28 00:00:00 UTC	1	cpc	2019102812510387	(not set)	spedire com	
UA-33256145-1	[Hybrid] TOFU Search Brand	2019-10-29 00:00:00 UTC	1	cpc	2019102909314757	(not set)	spedire	

This architecture allows us to have all the main customer information as how many times every customer bought from us, from which campaign they arrived, and what products they bought.

With this information centralized we are now limitless with analysis possibilities.

The advertising Dataset

Into the advertising Dataset, we are unifying all the Advertising data into one single Dataset maintaining the same variables, establishing one more dimension: ‘ Advertising Source’ with a date breakdown

The Structure will be:

- Date

- Advertising Source
- Campaign
- Asset Name
- Ad name
- Amount Spent
- CPM
- CTR
- CPC
- Conversion action made

The goal with this structure is to have a unified dataset with advertising focus and customer focus. If we let these two Datasets communicate we can extrapolate through the SQL programming language all the Growth KPI's

KPIs logic into a centralized dashboard

Throughout Hybrida's experimentation with more than 30 eCommerce Businesses, it has been created a deductive Dashboard's Template that starts with the Macro-Financial KPI, describes all the necessary customer information, and ends with what we can control: the advertising and funnels.

In the next page, you will be able to see the Mock Dashboard presented with numbers and graphs.

DASHBOARD

Overview



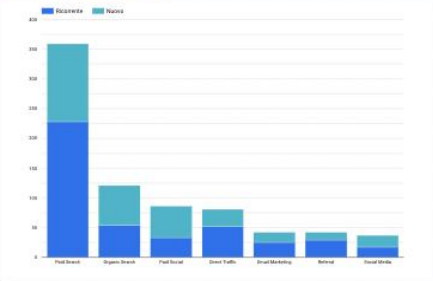
Focus sui clienti



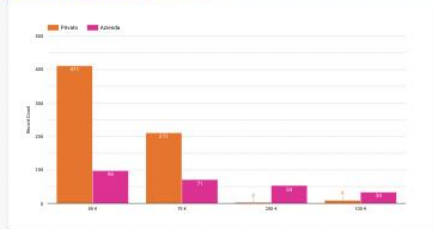
Time to repurchases



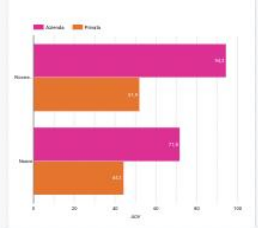
Clienti nuovi/ricorrenti per canale



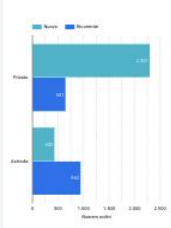
Numero di ordini per AOV per tipo di Cliente



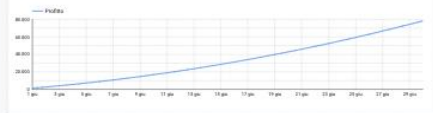
AOV per tipo di Cliente



Numero di Ordini per tipo di Cliente



Profitto nel tempo



Focus su LTV

Data (formato GG)	Clienti *	AOV Ordini	AOV	AOV Ordini	AOV Ordini	AOV Ordini	AOV Ordini	Totale LTV
1 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
2 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
3 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
4 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
5 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
6 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
7 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
8 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
9 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
10 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
11 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
12 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
13 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
14 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
15 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
16 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
17 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
18 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
19 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
20 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
21 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
22 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
23 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
24 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
25 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
26 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
27 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
28 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
29 gennaio 2021	2733	5,98	16342,81	5,98	16342,81	5,98	16342,81	16342,81
Totale complessivo	1.113	60,91	67.691,31	1,98	34.187,14	1.000,00	1.000,00	1.113

Attribuzione



Facebook ads



Google ads



Organico



DASHBOARD OBJECTIVE & DESCRIPTION

* All the metrics are compared to the previous month in order to give a clear view about the eCommerce Growth Performances *

Section 1: Overview

The first section is presented:

- Budget spent
- CAC overall
- # of orders generated
- Average time to repurchase
- Revenue
- Operating Profit
- ROAS (Return on Ad Spend)
- Average Order Value

The goal of this section is to give a clear and direct view about financial growth performance particularly describing the trend of ‘ Operational Profit’ (calculated considering COGS, Advertising cost, Shipping, and Logistic Cost) the most important financial KPI for eCommerce Growth.



Section 2: Focus on Clients

To understand if our activities are in order and are following business goals, we need to understand if the orders we got are from new clients or they are from recurring clients.

In this section we describe:

- Number of orders from New and Recurring Clients
- Number of new Clients from Advertising and Organic Sources
- The direct cost of acquiring these new clients
- What is the actual LTV of our clients in our Database?

In the eCommerce business, one of the most important KPIs for business evaluation is LTV/CAC, which describes the return on investment over time of the clients acquired with Paid Acquisition; in the dashboard, this ratio is 20x.



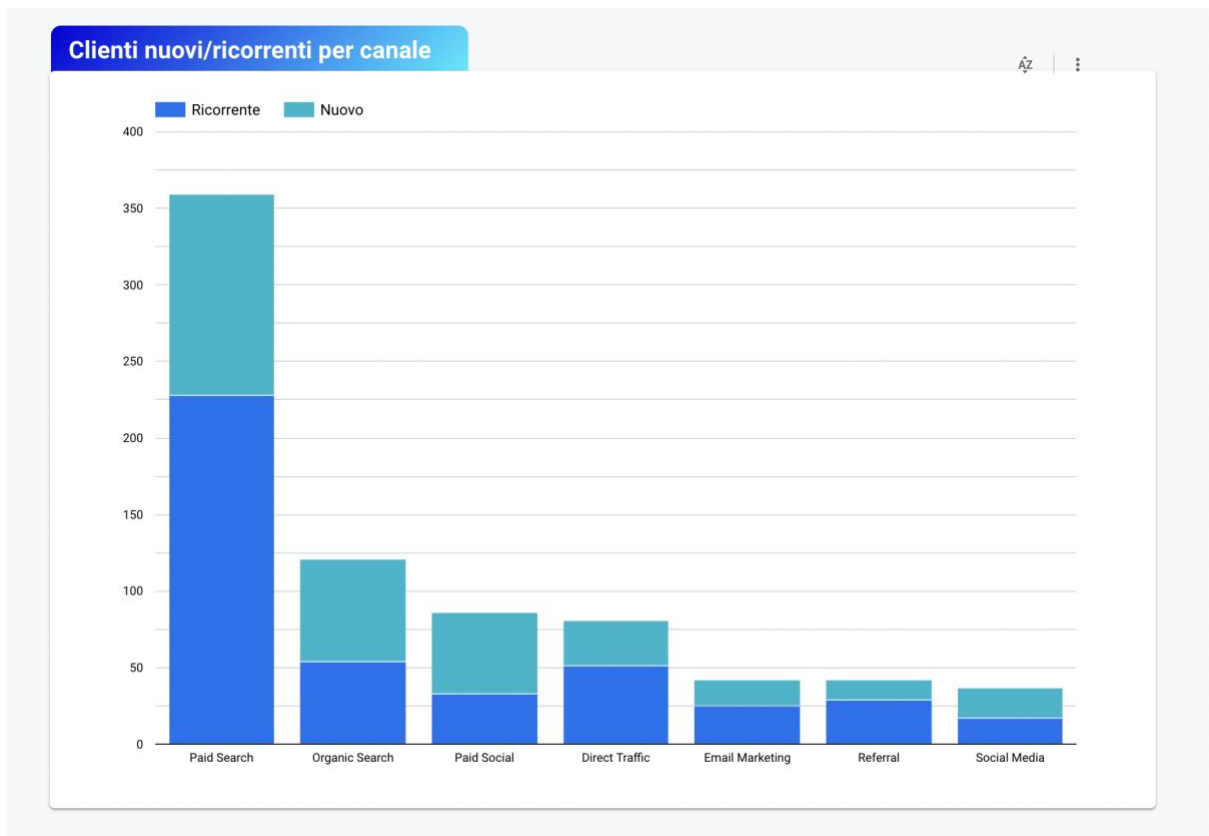
Section 3: New Clients/ Recurring Clients by Channel

Each eCommerce acquires traffic and transactions from external channels, so the decision-making process is essential to understand which channels bring more transactions from new or recurring customers.

As the Histogram shows:

- Number of transactions from New and Recurring Clients
- Breakdown by Channel

*Channel is intended as email, Paid Search, Paid Social, Organic Search, Direct Traffic, Organic Social, Referral



Section 4: AOV and orders by type of clients

In order to understand in which stage of the customer journey eCommerce owners make the most profit, it is essential to understand what is the average order value with the breakdown of the type of client.

Considering that the gross profit for recurring clients is way higher than new clients due to a

lack of the acquisition cost in the process of generating this type of transaction the best scenario for an eCommerce Business is to have a high AOV and number of transactions from recurring clients.

In this section is presented throughout 2 histograms:

- AOV with a breakdown of ‘ Type of client’
- Number of transactions with a breakdown of ‘ Type of client’



Section 5: Profit over time

To understand if the activities we are doing during the month are generating growth for our eCommerce business, it is essential to see the trend of our profit compared to the previous month

In this time-series graph we can see:

- Profit of this month in Dark Blue
- Profit of the previous month in light blue

* The profit is calculated as

‘OPERATIONAL PROFIT = Revenue - COGS - Shipping Costs - Logistics Costs - Advertising Cost’



Section 6: Focus on LTV and Cohort Analysis

To understand how our clients behave after the acquisition phase and decide how to structure communication through the channel we possess as SMS, email, WhatsApp, and push notification we need to see how much time it takes for our clients to increase on average LTV, check which clients have yielded the most LTV and what is the stationarity of the

business by each month.

This section is presented through a table:

- number of clients acquired by each month
- Average AOV of the first purchase of these clients
- The average frequency of purchase by each segment
- Change in LTV over 30-60-90 days
- LTV overall

Focus su LTV

Date Cohort (A...	Clienti	AVG Ordini	AOV	AVG Ordini	30 Giorni ...	60 Giorni LTV	90 Giorni ...	Totale LTV
1. giu 2021	311	3,65	51,9	3,65	46,98 €	90,12 €	181,76 €	189,2
2. mag 2021	238	5,58	48,6	5,58	25,7 €	79,83 €	170,56 €	270,98
3. apr 2021	189	7,62	67,2	7,62	127,78 €	201,45 €	298,72 €	511,9
4. mar 2021	145	11,09	52,12	11,09	132,54 €	245,66 €	371,21 €	578,2
5. gen 2021	131	11,3	54,1	11,3	121,45 €	321,56 €	456,11 €	611,24
6. feb 2021	98	6,75	46,23	6,75	57,12 €	120,16 €	220,2 €	312,1
7. null	null	null	null	null	null	null	null	414.580,78
Totale complessi...	1.112	45,98	53,36	7,66	511,57 €	1.058,78 €	1.698,56 €	59.579,2

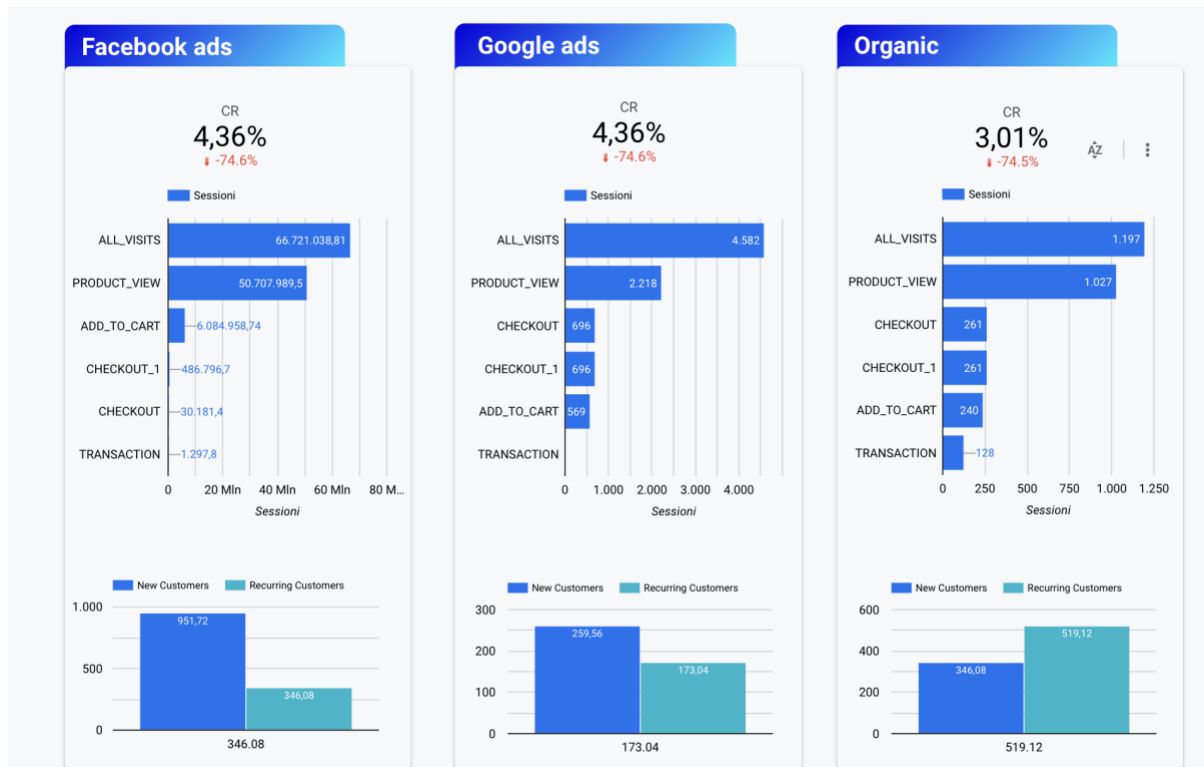
1-7/7 < >

Section 7: Funnel Analysis and customer analysis

To understand how our advertising investments impact our growth we need to:

- See funnel bottlenecks
- Check if we are generating transactions from new clients or recurring clients.

Due to a limit on CAC, we cannot pay again a client to make him purchase again most of the time, so we need to disclose whether our advertising campaigns are generating transactions from new clients or recurring clients.



So far we have covered a descriptive analytics tool that can describe with high accuracy what is happening inside an eCommerce business.

Now we want to take a step forward leveraging data **to create a predictive analytics tool.**

Why and How to predict future sales

Every end of the month, end of a quarter, or even end of the year, decision-makers of eCommerce businesses need to make four important decisions to continue growing without risking losing money in the process of growth.

They need to decide:

- What products to purchase
- How many products to purchase
- How much budget to dispose of advertising in the next future
- How this budget is going to be distributed on multiple advertising platforms

With Hybrida's clients, these decisions have always been taken using the average growth in sales obtained in the previous months.

After an interview with 3 eCommerce Managers that make more than one million euros of revenue a year, we learned that this process generates a lot of problems along the way.

The problem of using the average calculation to make budget and logistics decisions is that we do not take into account stationarity, price elasticity, budget distribution and transform these decisions into big assumptions that can be easily wrong.

A solution to this problem is to apply predictive statistical models that take into account the impact of all the variables that could influence sales to predict them.

Models are illustrated by studies of econometrics

Econometrics or **Marketing Mix Modeling (MMM)** is a powerful tool to decide where to spend your marketing budget and which products and how many products to buy for a certain period.

It uses Linear Regression to associate spikes and dips in sales back to actual events, for example, price increases, changes in the weather, and spend on advertising.

It measures at the user level to assign credit for each purchase and uses the correlation between independent variables and a dependent variable to predict scenarios on what will happen in the future

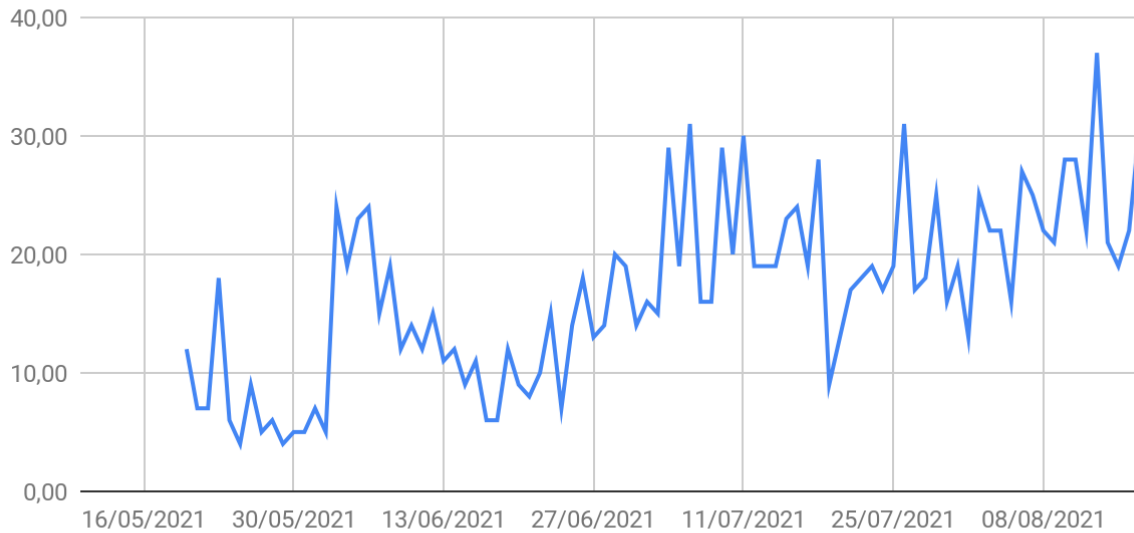
What can Econometric Modelling do?

Econometrics is the practice of applying statistical techniques to economic data to explain the underlying relationships in the data. The common application we're concerning ourselves with is called [Marketing Mix Modelling](#), which attempts to predict sales based on factors like how much you spent on advertising, what price you set for your products or if it was a sunny day. These factors are input as variables in a multivariate linear regression analysis, which outputs coefficients you can plug into an equation. This is important not just because it's useful to be able to predict sales, but because knowing how predictive each variable is, tells you the contribution of that factor to revenue. Meaning you can calculate how much revenue you made from marketing, without needing to track your user's conversion journey direct.

What makes sales go up and down?

Taking real eCommerce Data, we can chart our sales over time and see the line moving up and down without explanation. If you go ahead and chart your sales in the same fashion, you'll see movements up and down unique to your company.

Transactions over time



Transazioni

The main question we're trying to answer is 'what makes sales go up and down'. If we know that, we can strip out external factors ('do sales go up or down when it's a holiday?') and determine what credit internal factors deserve ('how many units of sales did my advertising generate?').

How to create a model with input variables that predicts sales

To understand the impact that has each dollar spent on ads on sales we need to create a dataset composed by:

- Average price of the product
- Advertising spent by each channel
- Day of the Week with boolean values

The dataset needs to be cleaned and then, this would be the result:

B	C	D	E	F	G	H	I	J	K	L	M	N
Day	Fatturato	Transazioni	SPESA FACEBOOK	Google ads	Prezzo prodotto	Lunedì	Martedì	Mercoledì	Giovedì	Venerdì	Sabato	Domenica
17/08/2021	766,90	31,00	121,35	10,24	24,90	0	1	0	0	0	0	0
16/08/2021	571,38	22,00	131,99	10,10	24,90	1	0	0	0	0	0	0
15/08/2021	463,14	19,00	138,08	8,26	24,90	0	0	0	0	0	0	1
14/08/2021	537,84	21,00	146,64	9,29	24,90	0	0	0	0	0	1	0
13/08/2021	967,38	37,00	166,40	10,36	24,90	0	0	0	0	1	0	0
12/08/2021	537,84	22,00	136,96	11,10	24,90	0	0	0	1	0	0	0
11/08/2021	721,96	28,00	133,58	10,44	24,90	0	0	1	0	0	0	0
10/08/2021	723,28	28,00	121,98	10,48	24,90	0	1	0	0	0	0	0
09/08/2021	563,84	21,00	110,67	10,24	24,90	1	0	0	0	0	0	0
08/08/2021	569,99	22,00	129,08	6,25	24,90	0	0	0	0	0	0	1
07/08/2021	634,80	25,00	115,42	9,53	24,90	0	0	0	0	0	1	0
06/08/2021	669,83	27,00	104,80	9,32	24,90	0	0	0	0	1	0	0
05/08/2021	428,20	16,00	115,00	10,37	24,90	0	0	0	1	0	0	0
04/08/2021	547,82	22,00	115,72	13,00	24,90	0	0	1	0	0	0	0
03/08/2021	568,89	22,00	68,77	12,52	24,90	0	1	0	0	0	0	0
02/08/2021	655,88	25,00	62,70	12,16	24,90	1	0	0	0	0	0	0
01/08/2021	332,42	13,00	62,16	12,21	24,90	0	0	0	0	0	0	1
31/07/2021	483,07	19,00	66,85	12,18	24,90	0	0	0	0	0	1	0
30/07/2021	409,61	16,00	64,05	10,33	24,90	0	0	0	0	1	0	0
29/07/2021	608,82	25,00	63,91	9,09	24,90	0	0	0	1	0	0	0
28/07/2021	444,32	18,00	63,16	8,13	24,90	0	0	1	0	0	0	0
27/07/2021	502,98	17,00	63,38	8,27	24,90	0	1	0	0	0	0	0
26/07/2021	774,33	31,00	62,75	8,47	24,90	1	0	0	0	0	0	0
25/07/2021	460,66	19,00	63,90	11,40	24,90	0	0	0	0	0	0	1
24/07/2021	404,64	17,00	66,23	12,11	24,90	0	0	0	0	0	1	0
23/07/2021	459,41	19,00	62,55	10,19	24,90	0	0	0	0	1	0	0
22/07/2021	441,91	18,00	62,02	6,02	24,90	0	0	0	1	0	0	0
21/07/2021	425,64	17,00	52,71	6,40	24,90	0	0	1	0	0	0	0
20/07/2021	328,80	13,00	52,81	10,02	24,90	0	1	0	0	0	0	0
19/07/2021	224,10	9,00	61,75	7,35	24,90	1	0	0	0	0	0	0
18/07/2021	689,74	28,00	63,50	9,30	24,90	0	0	0	0	0	0	1
17/07/2021	465,64	19,00	62,25	10,23	24,90	0	0	0	0	0	1	0
16/07/2021	607,60	24,00	60,80	12,95	24,90	0	0	0	0	1	0	0

Once we have all the datasets cleaned the next step to do is a regression analysis

we need to validate:

- Correlation between each variable and the output (unit sales)

- R² - Value between 0 and 1 that describe how many of the variations on the sales line is described by our model
- Mean error: Mean of the difference there is between the real value of the sales line and the predicted line
- P-Value of each variable: it needs to be < 0,05 to be statistically significant

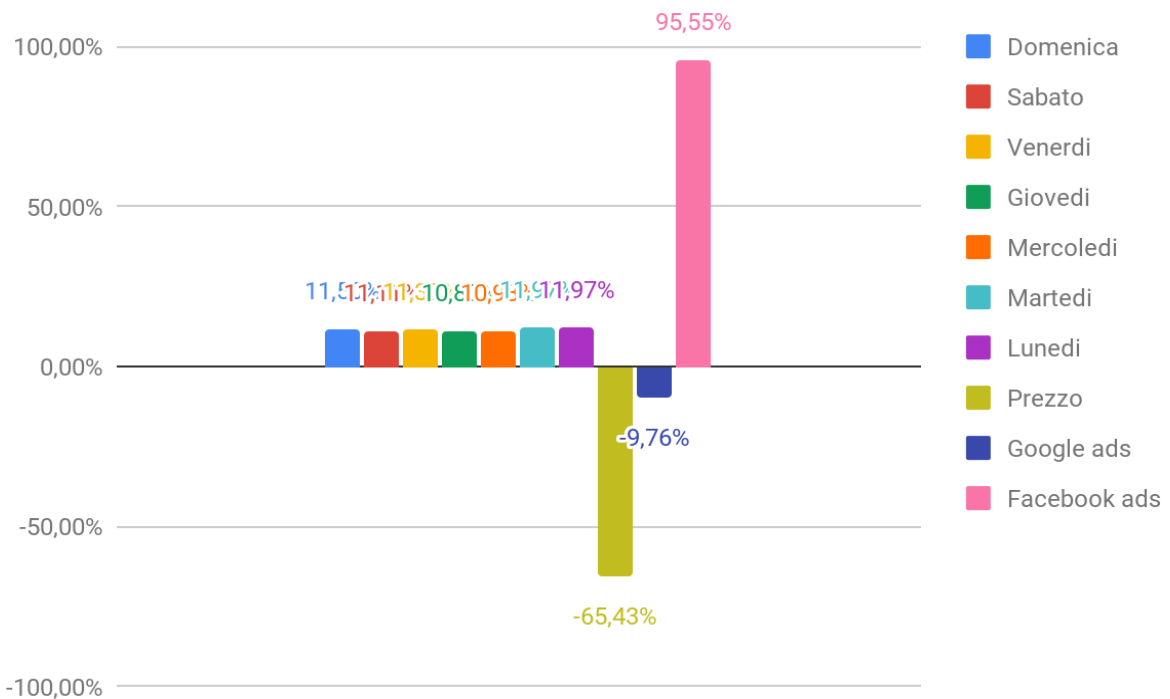
We run a Multivariate linear regression and we have this result

	Domenica	Sabato	Venerdi	Giovedi	Mercoledì	Martedì	Lunedì	Prezzo	Google	Facebook
	47,04462149	45,44300561	46,49118557	44,82856663	44,97965548	46,49762357	45,29580366	-1,451978429	-0,08288231604	0,130062632
	6,68560487	6,671136841	6,635049191	6,586590598	6,621185958	6,674930017	6,682271209	0,2216971417	0,06625134336	0,01818235937
R ²	0,9153210979	5,370891068	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D
F Statistic	97,28385321	90	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D
SS	28062,95837	2596,182378	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D	#N/D

	Domenica	Sabato	Venerdi	Giovedi	Mercoledì	Martedì	Lunedì	Prezzo Prodotto	Google	Facebook
Coefficiente	47,04462149	45,44300561	46,49118557	44,82856663	44,97965548	46,49762357	45,29580366	-1,451978429	-0,08288231604	0,130062632
P Value	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,214	0,000
SE	6,68560487	6,671136841	6,635049191	6,586590598	6,621185958	6,674930017	6,682271209	0,2216971417	0,06625134336	0,01818235937
CONT	658,6247009	636,2020785	650,8765979	627,5999328	629,7151767	679,4370549	679,4370549	-3791,086637	-541,253019	5125,301403
Impatto	12,30%	11,88%	12,15%	11,72%	11,76%	12,69%	12,69%	-70,80%	-10,11%	95,71%

In this table we are able to see what correlation has each variable with unit sales

The impact of each variable on sales



We see that Google can have a p-value too high and it is not statistically significant and its inclusion in the formula would not increase the accuracy of the model.

Create predictions to validate the model and its accuracy

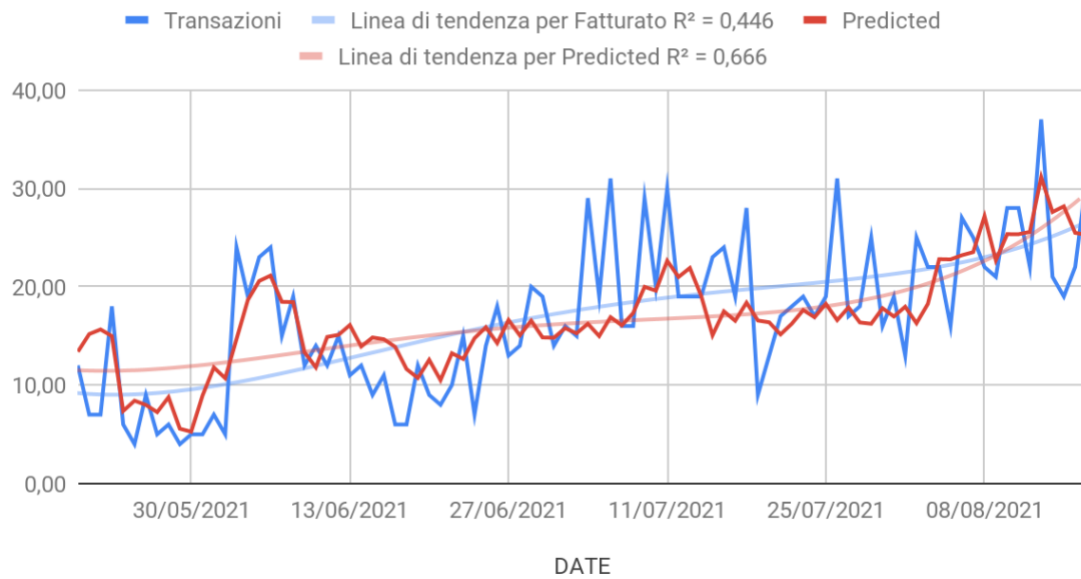
Once we have analyzed all the statistical values of the model, we need to check how accurate checking the prediction it makes compared with real-life sales data.

Every input is multiplied by its coefficient, measured the % Error of the prediction and this is the result

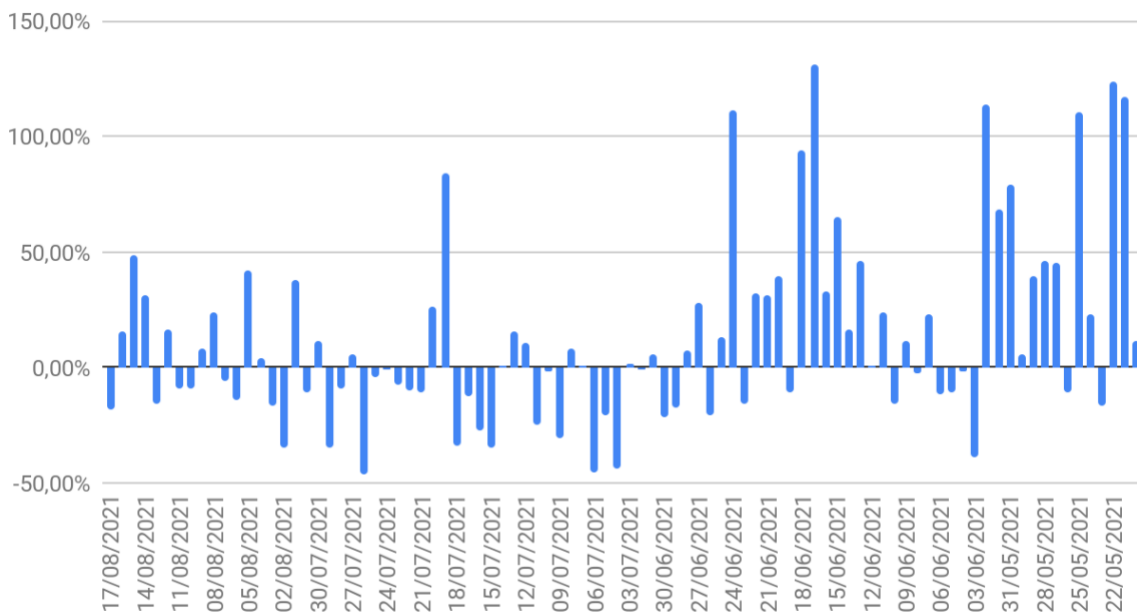
A	B	C	D	E	F	G	H	I	J	K	L	M
Day	Predicted	Predicted	Google ads	Facebook ads	PREZZO	Lunedì	Martedì	Mercoledì	Giovedì	Venerdì	Sabato	Domenica
17/08/2021	-14,89%	652,72	405,8939266	-21,11748292	-860,724135	0	1128,663134	0	0	0	0	0
18/08/2021	15,60%	660,50	441,4828132	-20,82876733	-860,724135	1100,565295	0	0	0	0	0	0
19/08/2021	54,81%	716,99	461,8527679	-17,03421962	-860,724135	0	0	0	0	0	0	1132,895331
14/08/2021	31,16%	705,43	490,4844285	-19,15834143	-860,724135	0	0	0	0	0	1094,829865	0
13/08/2021	-18,34%	789,94	556,5780749	-21,36495342	-860,724135	0	0	0	0	1115,453032	0	0
12/08/2021	19,59%	643,20	458,1065694	-22,89102152	-860,724135	0	0	0	1068,71241	0	0	0
11/08/2021	-11,15%	641,49	446,8010772	-21,52993375	-860,724135	0	0	1076,944009	0	0	0	0
10/08/2021	-9,53%	654,33	408,0011633	-21,61242392	-860,724135	0	1128,663134	0	0	0	0	0
09/08/2021	4,44%	588,89	370,1712473	-21,11748292	-860,724135	1100,565295	0	0	0	0	0	0
08/08/2021	21,24%	691,03	431,7493865	-12,88908869	-860,724135	0	0	0	0	0	0	1132,895331
07/08/2021	-5,40%	600,51	386,0591431	-19,65328244	-860,724135	0	0	0	0	0	1094,829865	0
06/08/2021	-12,51%	586,05	350,537153	-19,22020906	-860,724135	0	0	0	0	1115,453032	0	0
05/08/2021	33,41%	571,26	384,6543186	-21,38557596	-860,724135	0	0	0	1068,71241	0	0	0
04/08/2021	5,23%	576,47	387,0625891	-26,80930448	-860,724135	0	0	1076,944009	0	0	0	0
03/08/2021	-17,01%	472,14	230,0232825	-25,81942247	-860,724135	0	1128,663134	0	0	0	0	0
02/08/2021	-35,28%	424,48	209,7202241	-25,07701096	-860,724135	1100,565295	0	0	0	0	0	0
01/08/2021	36,85%	454,91	207,9140213	-25,18012367	-860,724135	0	0	0	0	0	0	1132,895331
31/07/2021	-10,45%	432,59	223,6012278	-25,11825605	-860,724135	0	0	0	0	0	1094,829865	0
30/07/2021	9,29%	447,66	214,2357314	-21,30308579	-860,724135	0	0	0	0	1115,453032	0	0
29/07/2021	-33,80%	403,01	213,7674565	-18,7458906	-860,724135	0	0	0	1068,71241	0	0	0
28/07/2021	-7,56%	410,71	211,2588414	-16,76612657	-860,724135	0	0	1076,944009	0	0	0	0
27/07/2021	-7,97%	462,88	211,9947019	-17,05484216	-860,724135	0	1128,663134	0	0	0	0	0
26/07/2021	-44,18%	432,26	209,8874652	-17,467293	-860,724135	1100,565295	0	0	0	0	0	0
25/07/2021	0,38%	462,40	213,7340083	-23,50969778	-860,724135	0	0	0	0	0	0	1132,895331
24/07/2021	6,43%	430,66	221,5274393	-24,97389825	-860,724135	0	0	0	0	0	1094,829865	0
23/07/2021	-3,59%	442,93	209,2185011	-21,01437021	-860,724135	0	0	0	0	1115,453032	0	0
22/07/2021	-8,80%	403,02	207,4457464	-12,41477023	-860,724135	0	0	0	1068,71241	0	0	0
21/07/2021	-10,88%	379,33	176,3054707	-13,19842682	-860,724135	0	0	1076,944009	0	0	0	0
20/07/2021	29,01%	423,92	176,6399527	-20,66378699	-860,724135	0	1128,663134	0	0	0	0	0
19/07/2021	92,43%	431,23	206,542645	-15,1575683	-860,724135	1100,565295	0	0	0	0	0	0
18/07/2021	-32,53%	465,39	212,3960803	-19,17896398	-860,724135	0	0	0	0	0	0	1132,895331
17/07/2021	-9,54%	421,22	208,2150551	-21,09686037	-860,724135	0	0	0	0	0	1094,829865	0
16/07/2021	26,40%	420,82	210,25574	25,26281284	-860,724135	0	0	0	0	1115,453032	0	0

Our model can predict sales with an R^2 of 0,91 and a standard error of the mean = 5,3

Predicted, Predicted, Google ads, Facebook ads , Lunedì...



As you can see below the error is reduced over time.



With these statistical models, we can create real calculators that can help us predict how many sales we will be able to do if we change the budget spent over the channels and what price we establish

	Domenica	Sabato	Venerdi	Giovedi	Mercoledì	Martedì	Lunedì	Prezzo Prodotto	Google	Facebook
Impatto	12,30%	11,88%	12,15%	11,72%	11,76%	12,69%	12,69%	-70,80%	-10,11%	95,71%
Coefficiente	47,04462149	45,44300561	46,49118557	44,82856663	44,97965548	46,49762357	45,29580366	-1,451978429	-0,08288231604	0,130062632
P Value	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,214	0,000
SE	6,68560487	6,671136841	6,635049191	6,586590598	6,621185958	6,674930017	6,682271209	0,2216971417	0,06625134336	0,01818235937
CONT	658,6247009	636,2020785	650,8765979	627,5999328	629,7151767	679,4370549	679,4370549	-3791,086637	-541,253019	5125,301403
Valore	0	0	0	1	0	0	0	28		150
Contribuzione per variabile	0	0	0	44,82856663	0	0	0	-40,655396	0	19,5093948
Spesa Pubblicitaria	150	Fatturato	663,11	CPO	€ 6,33					
Predicted transactions	23,68	ROAS	4,42							
Gross Profit	€ 156,71									

Leveraging the coefficient we got from the regression we can modify the yellow row to simulate how many sales we can get in a certain period

From the number of sales, we deduct the Cost per Order, ROAS, Revenue, and Gross Profit.

We can see how much Gross Profit changes by modifying our input variables and trying to find the best input variables to maximize Gross Profit.

If we can Maximize Gross Profit, we are generating growth.

Business view on Cassandra

The eCommerce market, according to statista.com, today has a value of 4,8 trillion dollars and is going to grow up to 6,38 trillion in the next three years.

Business Intelligence tools are growing in adoption.

According to [marketsandmarkets.com](https://www.marketsandmarkets.com), the Business intelligence tools market is growing

8,47% year over year going from a market cap of 28 Billion \$ in 2021 up to 40 Billion dollars in 2024.

Entering this market at an early stage focusing on helping the growth of a multi Trillion dollar market is a huge opportunity that can lead to huge monetary gain.

Applications of Cassandra

So far Cassandra has been used in Hybrida to improve its clients' results, allowing Hybrida to increase their fee and reaching a Monthly Recurring Revenue between 35k-40k/month and 12k-15k/month of profit.

We validated internally the impact that this tool can have and we are now validating with external clients.

Acquisition strategy and Validation

The first thing we need to validate is the reason why some businesses should buy our product.

I shared through several [posts on LinkedIn](#), the results Hybrida got using Cassandra and how we got those.

The following is an example:



Gabriele Franco

Data Driven Growth for eCommerce | Menzionato dalla Stampa | F...

1m · 🌐



Come scoprire le attività che portano più profitto al tuo [#eCommerce](#)

(+76% di Profitto)

Nel mercato degli eCommerce c'è una grande difficoltà nel monitorare quanto le nostre attività abbiano impatto sul Profitto.

Con un eCommerce di caffettiere e caffè eravamo in questa situazione:

- L'acquisizione era stabile e con ROAS 10
- Scalare le campagne avrebbe richiesto più budget e ridotto i margini
Non sapevamo dove intervenire per aumentare il profitto

Per questo abbiamo implementato Cassandra, il software di [#BusinessIntelligence](#) per eCommerce che abbiamo creato in Hybrida per aiutare i marketer a prendere decisioni DATA DRIVEN

Grazie a Cassandra abbiamo scoperto che:

L'ordine medio dei nostri clienti era 1,37
I clienti che ri-acquistavano lo facevano per la maggior parte entro 30 giorni

Dato che siamo nel mercato del caffè la frequenza di acquisto era TROPPO bassa
Abbiamo lanciato per 7 giorni esperimenti sulla retention e sull'offerta

Ecco i risultati:

+58% di ricavi
+76% di profitto

Tutto questo senza aver speso in advertising

Un eCommerce cresce quando cresce il PROFITTO, non il fatturato

Conoscere le attività che stanno davvero facendo crescere il profitto è la chiave per aumentare i guadagni ed il valore della tua impresa

Sai esattamente cosa sta portando profitto al tuo eCommerce?

Se vuoi dare un'occhiata a Cassandra, trovi il link nei commenti



+58% di ricavi
+76% di profitto

 **cassandra**

 65 · 16 commenti

 Consiglia  Commenta  Condividi  Invia

 4.193 visualizzazioni del tuo post nel feed

This post created curiosity and made us talk to 12 eCommerce managers that were spending more than 10k€ /month in adv and we learned that:

- The main features they wanted to see are Profit trends, Precise Attribution, and predictions on sales.
- The main objection was: “ the insights of this tool are amazing but I don’t have the human resources that can interpret these data and make decisions off of it”
- Only businesses that spent more than 30k €/month were sensitive to this problem and were doing the analysis that Cassandra does, but manually.

In the meantime, we are testing through advertising acquisition in Italy and abroad.

After spending 100€ we received zero Italian leads but two UK leads and one US Lead.

Learnings:

The Italian market is not yet sensitive enough to this type of analysis and it needs education to research a solution similar to Cassandra.

It might be smart to acquire new clients offering a course on eCommerce analysis and Marketing mix modeling and doing an upsell of the tool at the end of the course.

The Anglo-Saxons market on the other hand seems to respond better to this type of analytics tool.

Target Market and customer's qualifying characteristics

Through our customer discovery activities we identified the best early adopters:

eCommerce businesses that:

- Spend more than 30k€/month on advertising
- Spend budget in more than one channel
- Have an Annual Recurring Revenue of 1 million €
- Have an internal marketing department composed of at least two marketers
- They are analyzing profit, attribution, and campaign optimization manually

We aim to acquire our 10 first early adopters choosing from our network.

We are contacting the best eCommerce business we know, offering them the service for free for a month, until we prove we can help our clients to grow and then negotiate a price with them with annual contracts.

We already acquired:

- Koala Babycare: 10 Million € of ARR - In the free trial
- Spedire.com: 6 million € of ARR - paying client - 500€/month

and we are acquiring the other 8 clients right now.

Competitors in our market

The market is not waiting for Cassandra's Analytics solution and the companies that are trying to solve our same problems are VEDRAI SPA, LIFETIMELY, ADVERTITY, and LEBESGUE, but right now, they have a relatively small market share.

They have a price that goes from 300€/month up to 2000€/month

We differentiate ourselves by offering a free trial in the acquisition phase and working with our clients to create a tool that can demonstrate the impact it can have on clients.

In other words, we aim to compete with our competitors by iterating this solution with our clients, experimenting with KPIs and new features until we will achieve **product-market fit**.

Business Model - Lean Canvas representation

Given the performed analysis, we are ready to develop the Lean Canvas and the Strategies for all the operations.

First of all, we describe our Business Model, which is shown in Figure.

<p>PROBLEM <i>List your top 1-3 problems.</i></p> <p>eCommerce growth above 70k/month</p> <p>EXISTING ALTERNATIVES <i>List how these problems are solved today.</i></p> <p>Lebesgue AdVerity Vedrai SPA</p>	<p>SOLUTION <i>Outline a possible solution for each problem.</i></p> <p>Business intelligence dashboard that suggests you what decisions to make</p>	<p>UNIQUE VALUE PROPOSITION <i>Single, clear, compelling message that states why you are different and worth paying attention.</i></p> <p>Make decisions that generates growth through Business Intelligence</p> <p>HIGH-LEVEL CONCEPT <i>List your X for Y analogy e.g. YouTube = Flickr for videos.</i></p>	<p>UNFAIR ADVANTAGE <i>Something that cannot easily be bought or copied.</i></p> <p>Hybrida has growth experience with more than 30 eCommerce and knows perfectly what are the drivers for growth</p>	<p>CUSTOMER SEGMENTS <i>List your target customers and users.</i></p> <p>Ecommerce Revenue > 30k More than 2 advertising channels Marketing department present</p> <p>EARLY ADOPTERS <i>List the characteristics of your ideal customers.</i></p> <p>Ecommerce that we already know, we are offering the service for free until we find how to systematically generate growth</p>
<p>COST STRUCTURE <i>List your fixed and variable costs.</i></p> <p>Labor Cost Partner costs</p>		<p>REVENUE STREAMS <i>List your sources of revenue.</i></p> <p>Monthly fee</p>		

As we see in the cost structure's part of our Lean Canvas we have only Partner's costs and

Labor Cost:

2 Developer's full time that cost: 3500€/month

API Tool that cost: 300€/month

Data Warehouse that cost: 20€/month

To cover these costs, Hybrida is investing in this project with the profits it makes each month.

The entire startup cost will be bootstrapped and covered by our agency Hybrida.

Pricing hypothesis.

Analyzing our competitors we have two main hypotheses on price:

Fixed fee of 500€/month

Or

Flexible Fee: 300€/month fee + 100€ more every 1500 transactions analyzed

We are going to test both strategies in the short term and choose accordingly to the client we have until we find the offer that is the most profitable long term.

Medium-Term Strategy

As soon as we acquire our first 10 clients, generate our first case studies, and validate the acquisition method we are going to create an acquisition funnel that leverages:

- our organic reach on LinkedIn
- our network
- Paid advertising

Generate leads through a webinar in which we disclose our case study

Offer the free trial inside the video and if they do not buy they will be called to better understand their problems with analytics and offer them the free trial.

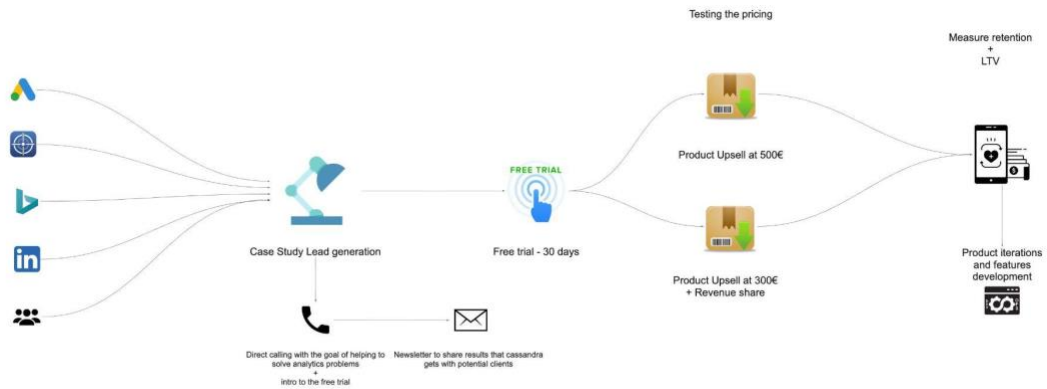
Once they finish the free trial we are going to test the pricing to understand what the offer with the highest Conversion Rate is.

As soon as we find the offer, we start acquiring customers with predictability.

It remains the most important metric to measure: the LTV.

The Lifetime value is the most important metric long-term because it determines the ROI that our product can have in the long run.

We are going to measure it and increase it working every day with all our customers and iterating the product according to their needs.



As we can understand this process takes time and it is not scalable but we believe that it is the fastest way to learn what to build and create something that our clients desire.

FINANCIAL PLAN

Q4 2021	Q1 2022	Q2 2022	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Acquire 15 clients	Acquire 20 clients	Acquire 25 clients	Acquire 30 clients	Acquire 35 clients	Acquire 40 clients	Acquire 40 clients	Acquire 40 clients	Acquire 40 clients

MRR = 7500€	MRR = 15.000€	MRR = 26.000€	MRR = 40k€	MRR = 58k€	MRR = 75k€	MRR = 90k€	MRR = 110k€	MRR = 130k€
Monthl y Costs = 4000€	Monthl y Costs = 5000€	Monthl y Costs = 8000€	Monthl y Costs = 15000€	Monthl y Costs = 24000€	Monthl y Costs = 32000€	Monthl y Costs = 35000€	Monthl y Costs = 37000€	Monthl y Costs = 39000€

TOT clients acquired = 285

Let's hypothesize a Churn Rate = 40%

We have 168 paying clients month over month.

Our objective is to generate an ARR of 1 Million € in 2 years of activity and if we multiply

$168 \text{ clients} * 500€ \text{ (pricing)} * 12 \text{ (months)} = 1.000.008€$

Conclusions

We face a big opportunity in the eCommerce Direct to Consumer Market, with a market that is continuously growing we aim to become the main partner to eCommerce business creating a solution that helps you see what impact your decisions will have on your business.

Through our skills gained in the eCommerce business, the technical skills, and our network we believe we are the best team to this mission and create a Software able to simplify growth for eCommerce businesses.

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