What are the KPI for commercial?

**Marketing KPI**

* Conversion rate: CPC cost per click

Retention rate: 1 – churn rate(reduce) = X’

* Return to Investigation (ROI): invest or proficient marketing campaign.

**Sales** KPI

* Customer life Value (CLV)
* Recency(R), Frequency(F) & Monetary(M) (RFM)

Recency(R), Frequency(F) & Monetary(M) or RFM segmentation technique is one of the oldest and popular technique used in direct marketing, where you target the most valuable customer, who is most likely to respond to a campaign. However, with the arrival of e-mail marketing, it seemed we will just have one mailing list and send same e-mail to all. But, due to changes in preferences, most of the users prefer to see only relevant content in their inbox and no advertiser wants to get unsubscribed by their user.

* From the plots above, we know that number of first time donors are a lot. It is very difficult to find the recommendation for these types of donors, simply because we do not know their preference yet. Unlike the high frequency donors, it is difficult to understand the affiliation of these donors. So, using RFM to cluster the donors, may provide a small solution to the cold start problem.
* From the overview of the problem statement, we know that DonorsChoose will be using the recommender systems for their email marketing campaign, that aims to connect the donors to the right kind of project. So, before making any recommendations, wouldn't it be nice to know about the donors who are most engaged with DonorsChoose and about the donors who are less connected, so that DonorsChoose can send customised e-mails of project recommendation for each cluster of donors.

The RFM methodology used here will focus on how recently a donor has donated, the frequency or the number of donation made by each donor and the monetary part is how much they have donated (this is my take on the analysis and is slightly different from the traditional RFM technique, because our business case is different and it doesn't hurt to think out of the box).

* Retention Rate
* Average order value
* Net profit
* Personalized search engine website: reduce the bounce rate

**SaaS Metrics**

SaaS (software-as-a-service) metrics are benchmarks that companies measure in order to establish steady growth. Like traditional KPIs, SaaS metrics help businesses gauge the success of their organization and effectively prepare themselves for a stable economic future. Software pioneers such as Salesforce and Marketo have proven the potential of SaaS metrics through their continuous, steady growth.

POPULAR SAAS METRICS TO TRACK

* Churn
* Activation Rate
* MRR, ARR - Monthly & Annual Recurring Revenue / ARPU - Average Revenue Per User
* Burn rate
* Customer Lifetime Value (CLV)
* Customer Acquisition Cost (CAC)
* Monthly Recurring Revenue (MRR)
* Net Promoter Score (NPS)

**Churn**

Considering SaaS companies rely heavily on subscription services, customer churn is a primary concern. Customer churn refers to the measurement of customers or accounts that drop a business’ services within a given period of time. By determining the churn rate, SaaS companies can gain a deep understanding of how and when customers interact with their product, which enables them to form better retention strategies. Once a customer leaves a company’s services, the race to attract and retain a new one begins. It is critical for scaling companies to determine customer churn rate, as it provides deeper insight into the overall health of the business.

**Marketing-influenced customer percentage:**

Measure the impact a given marketing campaign makes on your sales team’s productivity and revenue velocity. Make sure, though, that you educate your sales team on the impact that thought leadership content has on making a sale. One of the key takeaways from the Edelman study was the current disconnect between sales teams and CEOs about the value of thought leadership content. Encourage your sales teams to collaborate with your marketing teams for best results.

**Return on your marketing investment (ROMI)**

Measure the money you put into each content campaign against the revenue you receive. Eliminate poorly performing types of content and create more of your [top ROMI performers](https://marketinginsidergroup.com/content-marketing/b2b-lead-generation-strategies/).

**Marketing-originated customers:**

For each content campaign, measure the number of new customers that come from the campaign itself versus those who became customers through other means.

**Time to revenue:**

How long does it take for a piece of content to produce revenue? When sales teams act immediately when they receive a qualified lead from a content campaign—and use that content as a springboard for their sales presentation—a company will usually experience better results.

**Customer acquisition cost (CAC)**

For every campaign, calculate the average expense of gaining a customer. For example, if you produced a white paper that yielded three customers, learn the average cost for each. This strategy can help you find ways to streamline the content production-to-customer pipeline through more detailed content or more effective follow-up by your sales teams.

**Ratio of lifetime value to customer acquisition cost (LTV/CAC)**

 Discover what you’re spending to acquire each customer. Find ways to increase your customers’ lifetime value—such as cross-selling and upselling, as well as areas in which you need to spend more wisely.

**Activation rate**

Activation rate reveals what specific steps users take when they discover the value of a company’s product. For example, if a user downloads a ride-sharing app, the product is only activated once that user makes their first trip. Once this has occurred, the user has unlocked the value of the company’s product. The company can then delve further into the user journey, which enables them to optimize the user experience for other customers. By determining important aspects of how users engage with a product, the company can shorten the time it takes users to harness the value of their product.

As an indication of user interaction, activation rate is a direct measure of the success of a product, making it a vital metric for SaaS businesses. Considering many users fail to re-engage with a software service once a free trial has ended, it is up to companies to decide how to keep customers interested in their product.

**Burn rate**

Burning through one’s cash supply is one of the biggest challenges faced by fledgling SaaS companies. By determining how a company spends its cash supply over a period of time, investors can then gauge how much time there is left before a business runs out of capital. In order to determine the burn rate, companies can view their cash flow statement, which highlights any changes in cash position from one period to the next. In order to ascertain how much money is being lost on a monthly basis, a company can calculate the net burn rate by using the following formula:

Cash amount / monthly operating expenses = net burn rate

It is important for a growing SaaS company to remain mindful of their burn rate, as it informs investors and venture capitalists regarding how much funding they should allocate to that business. Since securing solid funding is essential to the upkeep of a new business, deciphering the burn rate is one of the most important aspects of running a SaaS company.

**Customer Lifetime Value (CLV)**

Considering SaaS companies focus heavily on the entire customer lifecycle, calculating the economic impact of each customer account is another vital metric. The customer lifetime value (CLV) refers to the projected total revenue generated by a customer over the course of the lifetime of their account. Naturally, the longer a customer continues to use a company’s product, the greater their lifetime value will be. This can be calculated using the following formula:

**Customer value x average customer lifespan = CLV**

By calculating the customer lifetime value, companies can predict how profitable a customer will be long-term, which gives them an idea about how to readjust their engagement strategies.

**Customer acquisition cost (CAC)**

Customer acquisition cost enables companies to determine how much money they spend on attracting new customers, considering marketing, sales and other costs. For SaaS companies, it is important to make sure that the cost of acquiring customers does not exceed the amount of money generated by them. The following formula can be used to calculate exactly how much money a company spends on customer acquisition:

Total cost of sales and marketing / number of acquired customers = CAC

By measuring the amount of money spent on attracting customers, companies can then formulate the most cost-effective acquisition strategy.

**Monthly recurring revenue (MRR) / annual recurring revenue (ARR)**

[Monthly recurring revenue](https://builtin.com/finance/monthly-recurring-revenue) (MRR) tells companies how much revenue their customers are generating over the course of a month. In the SaaS realm, this amount of projected new revenue can come from either new sales or existing business expansions.

Similar to MRR, annual recurring revenue (ARR) reveals how much revenue a company generates over the course of a year. Both ARR and MRR offer organizations insight into the financial well-being of their business and its collective progress.

**Net Promoter Score (NPS)**

The Net Promoter Score (NPS) enables companies to assess the loyalty of their customer base. This type of metric allows companies to quickly determine how their customers feel about their product. Companies often measure NPS using simple survey questions, which usually address consumers’ willingness to reuse a product or recommend it to someone else. For young SaaS businesses, this metric is especially useful, as it allows organizations to make any needed adjustments to their product or services early on so they can keep growing their customer base.

Went through digital coding:

1. Multiple tables join 1 check out

* 10 hard SQL.
* Resume: senior experience of problem solving

2. HR digital marketing

故事不太啰嗦 3（总纲）-1（-细节）3 （结论）

3. Marketing research: Attribution analysis

we always know 50% is lost but unsure which 50%

Fundamental digital marketing:

what is the customer segmentation which methods?

What is retention analysis vs. churn rate?

(What is conversion rate)

Machine learning, regression supply demands predict the

Classification digital marketing: fraud detection predicts

1. JD 未来3-5 职场计划
2. Stress test solution conflict, what you will do?

Marketing channel, strategies, Facebook Ad customer promotion

Which champion trigger the sale?

**Multi-touch last touch 算法 last touch** close to campaign which channel

1. The first sum captures differences in individual customers due to their distinct attributes.
2. The second sum captures the influences of variables that are collected at the market level.
3. The third sum captures multi-touch attribution variables derived from the customer’s interaction history.
4. provide marketing’s real ROI.

Dashboard, useful, monitor track sales marketing

Track the product new no track system, but sales time sequence last 3 months？

Segment

User distribution design 10 minutes

Introduction 5 min

2-3 min

20 min

有这种工作经历吗？ 是怎么解决的。？

Experience eligible

团队文化？ 现在在那个部分，相关经历。

1.模型的可解释性

End user machine learning tells the traditional enterpreise

Ehy

Hypterpararter why use XGboosting ensembled

LG, features importance regression model feature importance

1. 可解释性 结果更强

给了医生和护士更重要。传统行业不要太复杂。 简单一直细节要处理好，然后要模型横向比较

Gaussian Bayesian K nearest neighbour decision tree (ensemble meta) random forest

Logistic regression outcome ensemble 加权平均 数据，模型ABC 0.8,0.9,0.7 三个一起平均加在一起。

Features to explain decision tree features which feature large smaller than 模型解释性

模型的横向比较 更多的模型提高 0.02 准确性，挑参数，展现能力和知识， 而不是提高模型准确度

参照了几种不同模型pairwise distance

Tree based root base model tuning parameter, which model is the best to present to train the data and model

So ensembled to overall accuracy to improve or not, different model the advantage and different advantage.

Decision tree regression

KNN why it doesn’t work

SVM Decision tree the 作用

1.K-folds cross validation

2. Hyperparameter tuning

3. Linear regression: Cross-validation

XGboosting

SHAP解释Xgboost模型

Userbase:1)how the new pricing impacts new user acquisition (ie conversion rate)可以做a/testing或其他casual inference来比较新旧pricing的 conversionrate2)

how the new pricing impacts existing user retention 这里我想到的也是用predictive model去使用一年以前的data和目前的retention rate然后来预测未来的retention rate（不是很确定希望大神指点）

2Revenue得到了predicted new user conversion rate和existing user retention rate以后可以计算monthly revenue和现有的revenue比较

首先可以了解一下pm的objective是什么-减少客户流失？增加收入？后面的分析基本得绕着这个转如果从framework角度基本就是external和internal External上面的朋友们都有说到竞争对手他们是比较多按年收费还是按月收费价格范围在多少年收费对月收费的multiple是多少同时也可以了解他们的用户是中小型企业还是大企业因为不同类型的企业对于支出的偏好会不同大公司反而会倾向于按年收费或者multipleyearlockdownthecost了解竞争对手更多是了解客户看到的市场收费模式是怎么样以及从市场了解客户的付费意愿范围从internal的角度可以考虑cost-benefit analysis如果转成按年收费多少留存应该不会超过六个月的客户convert了(benefit)多少留存其实会超过六个月的客户也convert(cost)我们会因此损失或者难以吸引多少喜欢付费模式flexible的客户(cost)利弊哪个更大？为什么是180刀一年？是因为竞争对手价格都在那里还是销售crm提供的客户反馈还是根据churn做的分析？以及可以根据市场或者客户特质对于收费模式做些创新譬如年收费和月收费hybrid等等

Mentorship

Penal interview with 4- 5 groups meeting

KPI definition assign to junior analysts

Collaborate with the business and calculate the

Define the business to data problem solving where are the correct KPI to measure the business

History Data and business background

How to define the KPI what else data are we need to collect.   
--Product

DWH design and set up with the stakeholder across the business of the team

Product and Marketing investment

ROI calculation marketing investment product which channel has higher KPI?

First and Third product innovation

Group 1 present the Intro.

Group 2 technical interview

Group 3 higher level manager case study virtual on-site

Tableau 使用

Storytelling, logic line 起承转合 small example logic is clear organization 整体和逻辑.

General questions: hard to cover their opinions the current problems of business.

Mock 练习自信和反应都，这个比较cover 要点

具有逻辑性思维出发，解决问题的能力

用什么方法去尝试了解更多的信息，问题的重点和发生的问题，多和团队沟通

展示解决问题的方法和经验，具有棘手的新问题，具有发现问题，解决问题的方案。

增加经验和实践可以了。

回答问题的思路，清晰的点去剖析问题，遇到问题是遵循原则的。

Alteryx five trum

Click – qlik looker data studio.

Marketing Attributes Notes

1. Position Based

Facebook CRM Google 40% 40% 20%

2.linear model

Each channel gets each amount of 1/3

3.Time Decay Big credits to the last credits depends on how much time has been touch bef the purchase has been touched.

First touch most less few until the last

How much touch 24%, 33% and 43% ad words

Last Touch all credits to the before the purchase

First Touch all credits to the very first one before the purchase

1. Selecting the attribution Model

Last Touch all credits to all the channels.

Multi model give most in beginning and ends, and left over to

Times Decay same as last touch incremental

Linear equal

Last Touch: close the sale convicng enough to acquire the conversions

First touch, touch exposed to the site allow the cookies for many future.

Which model is best for

Business selects the position based

* Very short sale cycles most people are going to purchase
* After the marketing optimization, I have great conversion rate.
* Tight marketing budget need to market sure the add py
* I’m struggling to find the new customers
* Convers sin is questionable since the budget is limits

50% credit for the first and 50% for last

First touch

Single minds focus and brand awareness

B2B company selling expensive enterprise software

Very long lead time to convert

Has tapped out current target segment, expanding to a new audience.

Business condition

Well-known online travel agency for hotel

The product is a commodity and trave is very competitive space

Want to incentive quick conversion

Dilute the credit between the conversing and blandness not position

Time Decay and last touch company is in competitive on the immediate conversation

Last touch is the best option

Last Touch

* Attributes
* Simplest
* Most precise
* Default model
* Incentives
* Disincentives: marketing that relies on the previously seen the users on your sites (retargeting, email, etc.)

Best for companies

* With the short scale cycles
* Most concerned with conversions.
* Not currently expand to the new audiences

Position-based (brand awareness and comprise)

* Complex track/less require the multi-site/device tracking
* incentives marketing that is higher up the funnel for brand awareness and Marketing that is
* very transactional means to convert immediately

Best for the companies,

Time Decay

Attributes

* Complex tracking/less accurate -require multi-session/device tracking
* Incentive’s marketing is very traction, meant to convert immediately
* Disincentives marketing that is higher up the funnel and for brand awareness
* Close to last touch

Best to company

With many marketing touches

Most concerned with conversion

Not currently expanding to new audiences or not concerned with the brand awareness

For the companies most concern with the conversion

Linear

* Complex tracking/less accurate -require multi-session/device tracking
* Equally incentives all types of marketing form brand awareness through
* Common in B to B uncommon to commercial

Selecting the attribution model

Tracking marketing attribution

URL parameters

Information be passed

Web definition?1 query string

Domain, pairs of Fields = value and

The data passed in the URL

Utm\_source = newsletter

Utm industry standard to pass the information

Urchin Tracking modules

Utm\_sources

Utm\_mediuam

Utm\_campaig= experience

Utm\_term

Utm\_content use the AB testing  
utm

Et\_id = 19384u0w2qu5r9

Cvosrc = email.SSFMS.20128-053-0AprilSnoozeletter\_US\_Custo

UTM parameter example 3

Variant A variant B

UTM parameters

Utm\_source = facbk&utm\_medium=social&utm\_content\_variantA

Show the performance all campaign

Usually only tum\_source is require by analytics platform (GA)

You can use whatever types of pareamter you would like will require the configuration.

The order of parameter s does’’ tmatter

Utm\_source = news&letter&utm\_medium=email

PSA for data integrity

“fcbk””facebook”,””

What if you aren’t the online

Google URL builder

Referrer domain

[www.google.com](http://www.google.com) [www.bing.com](http://www.bing.com) [www.baidu.com](http://www.baidu.com) [www.facebook.com](http://www.facebook.com)

[www.youtube.com](http://www.youtube.com) [www.reddit.com](http://www.reddit.com)

Referrer domain when you don’t have the control the linke of your site

SEO organize referrers organic social

Pass automatically

I have to fakebook campaign which set up two campaigns 1 and 2

Which is allow me to easily measure the performance of at the campaign level using Good analytics and for two campaigns?

Summary-tracking

Which is not allowed to aggregate for Facebook campaign using a standard 3rd party tool like google analytics.

Ut\_msource&facebook\_campaign1&utm\_campaign

Say you ran an ad on Facebook but forget to include the UTM parameter, what types

Of traffic is your analytics platform most likely to assume.

Social post on Facebook

Google analytics

Campaigns by channel

Impact of different attribution model

Intro to Google Analytics (GA)

Web analytical tool and track to report the traffic to site and action on this site

Keys for markets

What channels and campaign drove traffic to the sites?

What that traffic did know the site – to understand what conversion or revenue can be tied back to the marketing initiatives

Resources of show to set up the GA on your sites

Basic setup

Defining goals support google.com/support

Google merchandise store

Channel report acquit ion all traffic report selects the time periods

Performance metrics by channel groups come box of GA

Match up to marketing organic search come up to sites of 65% e commercial

103 transaction 11000 $ of the research

Display, break down by sources

Default attribution model

810000 11000 $ last touch of attribution

Variation of model

Last non-direct touch

Specify multi-channel report to show the

Conversion attribution and model comparison

Conversion 38000900 last interaction last interaction

Select the different ones

Compare against last interaction

Opposite of the last interaction

Huge different version first last model

Percentage of differences looking at referral s

Bring the users to the sites position based

Give some way to last to first lending in somewhere in between

Almost exactly having in between with the first touch and last in touch

What the potential of change the attribution model s

About the tracking

Not see the huge differences

Measure the traffic attribution if change to the different model s

Notes for the google analyst d

Where ae the default channels groups?

Paid social row up somewhere definition link to the going to the amount of channel group g

Handy guide for adding paid social or social ads to your channel grouping.

Powerful tool for the impact of marketing channels

Tracking limitation

GA tracking limitation

All session had to happen on the same device a& browser

User couldn’t have blocked /cleaned cookies

You can build you worn potential ore accurate, especially log -iij user but you still hit limited with not being able to link anonymous user scot eh device.

Model variants

Customer journey

D1. SEO searches click

D2. Facebook ads click

D3. direct type of company URT  
D4. Directly type the company URL

Last Non-direct Touch credits to go to direct

Last non-direct

Last touch but not considering

Journey

Day1. Directly type the company URL make the purchase

Credits goes to the direct

Last non-direct touch

Day1. SEO search click

Day2. Facebook ad click

/……

Day100 directly type the ccompany URL -purchase

Position Basd

40% share the 20% to the middle

Give no credits to middle touchs only value first and last

Don’t’ value direct(unless it’s the first touch)

How fast the decay model

You can choose to ignore the fast

Marketing attribution advanced part I

Model comparison

Marketing attribution advanced Part II

Time: play the key role in conversion

Day1.SEO search click

Day2.Facebook click

Day100, direct the type company URL purchase

How far you are looking for?

So how logn should your sale cycle?

Time consideration

Super long: real estate purchase, B2B enterprise softwared

Very short, low cost commodilites

Are you running brand awareness

Google marchadize score

Last 30 days for conversion

Zero day for the very first touch

70% of conversaion and revenue

Recorded of them what are the brand new

How far you have to go to get the emergency

To see the difference of 100% of back a few days

How far back to it”

Model comparison tools

How the models changes for instance first last transaction

Look at the difference 77% of last touch

How big the difference make the chances

Acquisitionn vs. Retention

Typical marketing goals:

Acquisition: brand awareness explain products, get set up for the first model

B2C e-commercial   
Acquisition Retention

Reactivation

In B2B enterprise software

Lead Gen

Conversion

Homemarkets: last touch

Growth markets:

Or by

Beware of over-complication

Will have an impact

How often are multiple touchs involved

Will your marketing efforst or budge change with the new model ?

Think about:

The accuracy of the data.

Beware of over-complicatin

Will it have an impact?

* How often are multiple touches involved?
* Will your marketing efforts (or budgets) change with the new model?

Think about

* The accuracy of your data
* The investment in data engineering/analytics to implement and maintain
* How fixed is your marketing stratege?
* Your markets

Extension

What is the direct traffic?

[www.googlemerchandisestore.com](http://www.googlemerchandisestore.com)

Direct traffic – an experiment

2014 Groupon experiment

They deindex their sits for 6 hours

SEP took a 100% hit

Direct took a 60% hit

Groupon concluded that roughly 60% of their direct traffic was actually.

There isn’t any tracking mechanism that tells you that a visit is direct.

Direct is defined by the lack of other identifying information.

It’s the other of attribution.

Lots of reason why you won’t have referral domain information.

Some browsers don’t pass it

Browser don’t pass referrer.

Implication

Rely as little on referee information as possible, always use URL tracking in your campaign carefully following the configuration require by your analytical tool s

Recognized the your referral domain -based channel (SEO, organic, social,mrefererer are undercounted)

You should allocate a proportion of your ‘direct’ revenue to those channels

Traffic Correlation

Could imply there is a lot of untagged SEO traffic being mislabeled as direct

Direct and SEO traffic -highly correlated

View through and offline marketing campaign

Offline marketing

Advertising Channels brand of gaining the awareness.

Digital Advertising

Estimating impact of view-through and offline marketing

Market mix Model

Regression and time series and through business condition s

Wiki makes marketing more details.

Genera the companies with the project

Market mix modeling

Industry research, benchmarks

Unique tracking for customer to type out -landing pages, coupon codes

Looking at trends knowing when your major offline campaign ran, limiting to the market they ran in

Survey to your user: “how do you find that out”?  
Direct = view – through + offline?

Some markets assume “direct” value is the value of vie-through and office marketing g  
But what if a commercial made someone more likely to click on an ad later on

Clicking back to the direct traffic

Circling back to the direct traffic

Back to your attention model, again beware of over complication

Will it have an impact?

Will you’re be marketing stratg or budge change because of what your found?

Think about:

* The accuracy of your data
* The investment in date engineering/analytics to implement and maintain
* How fixed is your marketing strategies?
* Your marketers?

Graphical user interface, application, table

Description automatically generated

Quantifiable measurement: regression and forecasting on market Mix model

Sign the value of offline campaign.

Observe the trend of the spike of commercial increase and distribution of coupons

Run survey to see how they find about it?

Direct traffic of referral domain

If choose one of the marketing attribution but result in low direct traffic

Might undercount their proportions

Beware of over-complications

Emarketing the methods

Make impact

Will your marketing stragtegi sor budge change because of what your find?

Consider the customer journey of 4 visits

* Facebook social
* Adword search
* SEO
* Direct and purchase

Last time, 100% to the last

Position Based:

Draw diagram most first and last middle equally.

40% 10% 10% 40%

* Facebook social
* Direct and purchase
* SEO
* Direct and purchase

Timeline

Description automatically generated

Q1 (First Touch)

Business Conditions

* Business company selling expensive softward
* Very long lead times to convert
* Has tapped out current target segment expanding to the new audience.

Want to incentivize:

* Introduction our brand to new audiences single-minded focus on the brand awareness

Want first-touch

Position base wants both awareness and conversion compromise.

Q2. Business condition (Last Touch)

* Well-known online travel agency for hotel booking

The product is a commodity and travel is very competitive space

Want to incentivize.

* Quick conversion

Timeline

Description automatically generated

A screenshot of a computer

Description automatically generated with medium confidence