Speedinvest Pirates

THE ULTIMATE GUIDE TO

STARTUP METRICS

What to track, when and why

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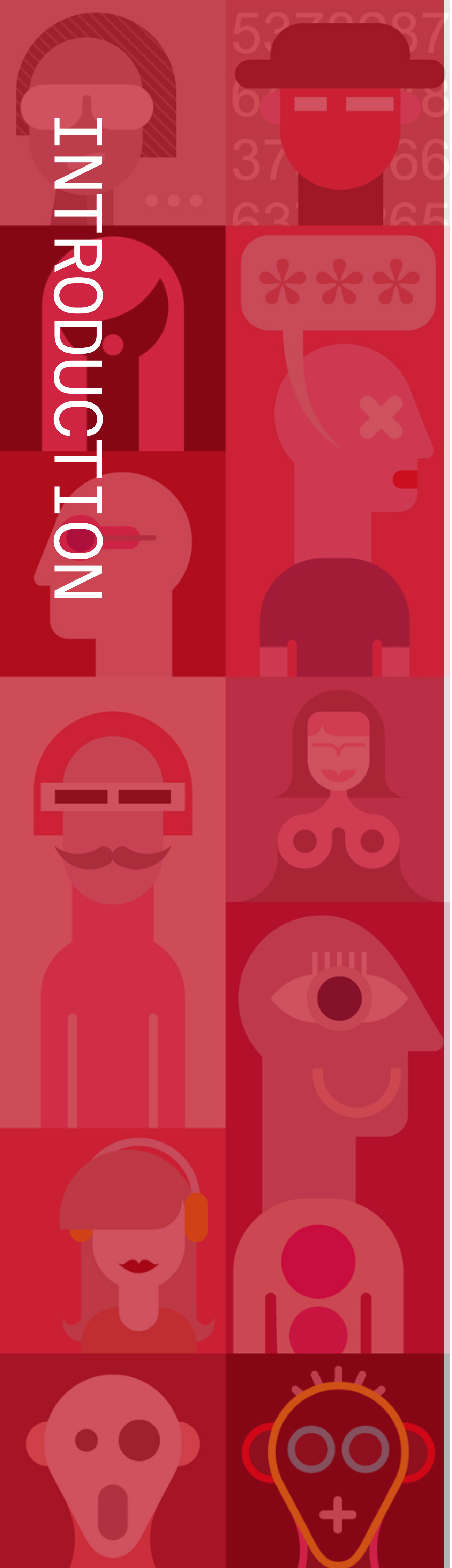


Metrics Matter

> "If you cannot measure it, you cannot improve it"
>
> - Lord Kelvin

Over the last few years, a culture has emerged which values growth above everything else. This is especially true for startups in the US. Fundamentals such as a profitable business model and achieving product-market fit have been neglected. While the goal for many startups is to present promising metrics early on in their pitch deck, their reality looks much different. After an initial investment, most companies slow down their growth efforts for a while. This is until they have ramped up their teams and improved their strategy as well as their product and thus are able to expand further (Shafranik, D., 2019).

Showing a path towards profitability, and not a story of growth at all costs, becomes crucial - especially after learning about cases like WeWork (Schulze, E., 2019) or the fitness company Peleton, although less severe (Griffith, E., 2019). What is important to show is especially how revenue ultimately surpasses costs, rather than making money straight away (Schulze, E., 2019).

Initiatives like “Open Projects” from Baremetrics have emerged which show more than 800 SaaS benchmarks with live data (Baremetrics, 2018). However, the challenge is that startups try to create something unique by definition and cannot use the same metrics as a measure of their success or progress (Datarockets, 2019). Hence, there is no blueprint for measuring success.

Additionally, many different definitions of metrics are used and the purpose and reason why they are adapted vary greatly. Ultimately, metrics are solely a tool which tell founders why some things are working and others are not. This helps to continuously improve product and business (Jordan, J. et al., 2015).

Startups have a huge advantage compared to traditional companies: they lack the legacy of a traditional marketing approach where many decisions are based on gut feeling, traditional industry behaviour or deep beliefs of senior leadership. However, they often struggle to capitalize on that because the “right metrics” differ depending on the industry, the stage and the business model of the individual startup.

Summing up, a lot of uncertainty exists on which metrics should be reached, the corresponding benchmarks and the definition of metrics. To shed some light on the metrics maze, we at Speedinvest Pirates created this qualitative guide.

What You Can Expect From This Guide

Speedinvest Pirates is part of Speedinvest, one of Europe's biggest early-stage venture capital funds, and supports startups growing their companies in a sustainable way. With the combined knowledge of marketing enthusiasts, entrepreneurs and first-hand insights from experienced investment managers, this guide provides a collection of the most important metrics for venture-backed startups.

“A data-based decision making culture is the single most important competitive edge of startups against incumbents. But most startups are in love with their product and rather work on a “Product founder fit” than a “Product market fit”.

Dieter Rappold, Founder & CEO

You will find a set of important metrics for each industry (pre-seed, health & consumer tech, fintech, deep tech, marketplaces, and industrial tech) mapped to the different stages of early-stage ventures. These metrics are then explained in further detail.

We collected insights for the tips and recommendations section through profound desk research and interviewed investment managers from Speedinvest as well as three successful startups.

How To Read This Guide

This guide is designed in a way that you can look at the list of contents and identify relevant chapters for yourself. Hence, there is no need to read the entire guide! You can simply look up your industry, read the general intro section and then look for the metrics mentioned for your respective industry.

The guide starts with the definition of the North Star Metric which is important for every type of startup. This is followed by an overview in which relevant metrics are mapped to each stage and industry.

Additionally, you will find benchmark ranges in the matrix which we assessed via qualitative interviews with investment managers from Speedinvest.

The metrics listed in the matrix are further outlined and structured along the AARRR funnel. This means that we will look at the metrics in the order of a user journey: Acquisition, Activation, Retention, Revenue, Referral (AARRR). All these chapters have the same structure and consist of three parts. In the theoretical part, we define the metric and give some background knowledge. In the section about application we look at the formula, the process of how you can incorporate it in your business and possible challenges you should look out for when implementing the respective metric. In the third part, for some metrics we provide actionable insights on how to work with the underlying metric.

Finally, we gathered six recommendations for improving the overall performance.

ENJOY THE READ!

Theory

How can you measure your overall company's success? Is it revenue, number of employees, ARR, MRR, or engagement? Truth is, it will be different for each business and you need to find your very own "one metric that matters" aka your North Star (datarockets, 2019). A good North Star reflects your product-market fit (Vouillon, C., 2017). Jon Butterfield (2019) highlights the importance of deciding on a North Star even before developing a product. By deciding early on which metric is suitable for your business, it is possible to focus on optimized user flows and product features (Butterfield, 2019).

> "The North Star Metric is the single metric that best captures the core value that your product delivers to customers."
>
> \- Sean Ellis

Examples for North Star Metrics (NSM) can be daily active users (DAU) (Facebook), the number of questions answered (Quora) or total time reading (Medium) (datarockets, 2019). However, focusing on one number only might result in constraints on growth (Golden, J., 2020).

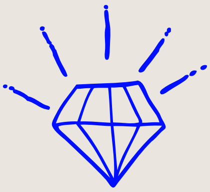
Hence, it is important to distinguish between input and output metrics in order to find the right mix to monitor. While output metrics reflect the results, the input metrics indicate actions (Reforge). Another proposition found in literature is to distinguish between quantity, quality and efficiency metrics.

In almost all cases, the North Star will be a quantitative metric, however, others should still be monitored as they will contribute to overall growth. So, the question is why not simply use revenue? Simply put, the answer is that great financial metrics always come from a great product (Golden, J., 2020).

A powerful NSM has the ability to align and gear your whole business to that objective. That being said, the NSM is a guide that lights the path forward but it doesn't mean there are no traps along the way. An analogy might explain this in a straightforward way: Imagine you are a football coach. Looking only at the score will not give you any insights into how to win the game.

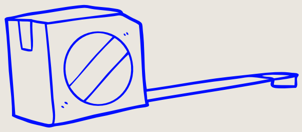
To get an understanding of whether or not you are playing to win you need to see how your team is performing in all dimensions of the game.

DIFFERENT TYPES OF METRICS



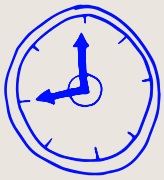
QUALITY

Resembles the service quality, which is reflected in satisfaction, engagement or retention metrics (e.g. Airbnb: NPS)



QUANTITY

This measures the usefulness to the user and the revenue to the business (e.g. Airbnb: number of nights booked)



EFFICIENCY

This is about achieving a high return on the investment made (e.g. Airbnb: customer support tickets per reservation)

Application

The NSM can be either one or an amalgamation of metrics, taking into account many different aspects of your business. Still, it should be easy to understand, so your team can actively work towards it in their daily business (datarockets, 2019). Ideally, you choose a set of output metrics that capture retention, engagement, or monetization as a first step (Reforge).

Map out the relationships and interdependencies between your output and input metrics. If you identify opposing metrics find a way of how to achieve a healthy balance (Reforge). Looking at the example of LinkedIn below, it is clear that they need to carefully balance the input metric "no. of ad spots in the newsfeed" as it increases their revenue (positive) but can also have negative effects on their users who are seeing more ads which can reduce engagement (negative).

Note that your output metric is your overarching North Star which guides you for a long time whereas the input metrics are necessary to achieve this output but they might change more often. That is why it is crucial to build experiments for assessing and optimizing your input metrics (Reforge).

To get an understanding of whether or not you are playing to win you need to see how your team is performing in all dimensions of the game.

Before implementing a north star metric you should assess the following questions to get started. Think about how your product creates the most value for the user. What exactly is driving the value? Are there several factors that influence the value? If yes, which factors can be classified as output and which as input metrics? Taking into account your output and input metrics which reflect on the maximum value for your users; how does your growth equation look like?

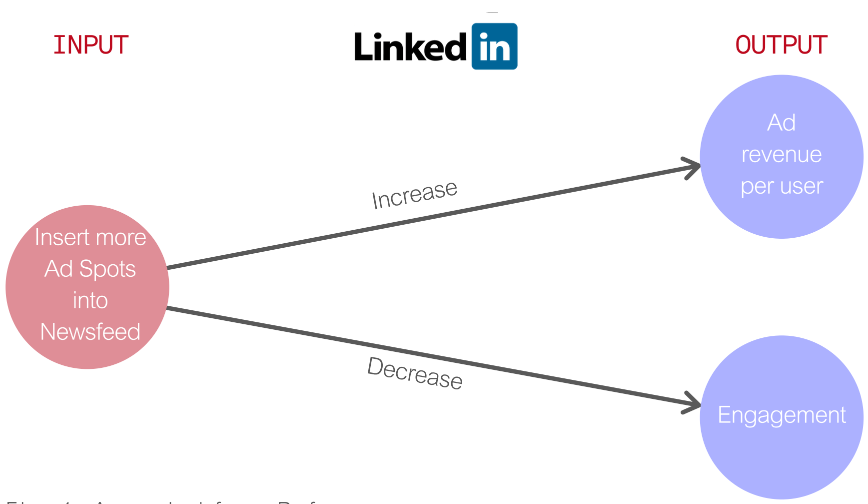


Fig. 1: Amended from Reforge

How can you ensure that everyone in your company understands and implements the NSM? Reassess your North Star every once in a while especially when your business priorities are changing (datarockets, 2019). Your North Star is also guiding your product development efforts. Is a new feature not driving your North Star? Then chances are high that it should not be prioritized or your team should stop working on it entirely (datarockets, 2019).

NSM in Practice

“Really be spot on in being what it is that defines success in my business is something very often left out, or given too little attention.“

Marie-Helene Ametsreiter
Lead Partner, Speedinvest

"When looking for a North Star pre-launch, it is essential to talk to customers to understand the true value to them. Post-launch it is important to be open to change in order to find product-market fit."

Jon Butterfield
Founder, W23 Labs

During qualitative interview sessions with experienced investment managers from the European VC company Speedinvest, we gathered insights on the most important metrics startups should look at during pre-seed, seed and series A stages. Due to the vast majority of different types of businesses, customer segments and of course depending on the different stages the startups are in, these insights serve as a starting point for understanding the basics of a data-driven approach.

Deep Tech

In Deep Tech, it makes sense to distinguish between the types of customers the company is selling to, rather than clustering into deep tech or non-deep tech startups.

Pre-Seed

During pre-seed and seed-stage, deep tech founders should track and focus on the number of proof of concepts (PoCs) they were able to establish. Ideally these are already paid PoCs where customers pay about 10k/30k/50k. By the time the startup is in the seed stage, 3 PoCs would be ideal, but there should be a transition towards paying customers. PoCs then become part of the overall sales process. During the seed stage, they lose importance as the main KPI but are more important in terms of keeping track of your sales pipeline.

Other things startups targeting small and medium businesses (SMB) should watch during pre-seed and seed can be anything that shows the level of interest but usually this phase is not very metrics-driven with one exception: if a startup offers free open source products. Then you will need to monitor GitHub to understand how vibrant the ecosystem is: How many people are contributing and how many stars do they have? For freemium approaches, you can look at the number of downloads and signups.

Seed

Oftentimes enterprises are the primary target group for deep tech startups. Hence, an important metric to keep in mind during seed and series A stage is the annual contract volume (ACV) which should be ideally around 100k. ACV will gradually improve over time with higher customer satisfaction after the second or third year of a contract with a certain client. The younger the company is, the smaller the benchmark for ACV, of course. Additionally, companies targeting SMBs also need to be aware that their ACV will be lower.

Series A

In series A, focusing and showing, recurring revenue is key. What is important here is to distinguish between booked revenue (bookings) and annual recurring revenue (ARR). For instance, in 2020 a customer pays €1M upfront for the next 3 years, the booked revenue equals €1M in 2020 but the ARR is actually €1M divided by 3. By doing this exercise of distinguishing between bookings and revenue you can see the actual amount of cash in the bank and also get a valid picture of the revenue made in the respective year. A good benchmark for ARR in series A is usually at €1M.

A second metric to monitor closely in series A, and moving towards series B, are customer acquisition costs (CAC), especially when selling to SMBs. Generally the CAC should be smaller than the annual contract value (ACV) and for the best companies it should be about half the ACV.

"I might sell a product to a company for 50k a year and it might be a 70k consultancy project. That is not a 120k ARR customer that means it is a 50k ARR. (...) Revenue scales. Services revenue does not scale."

Marcel van der Heijden
Lead Partner, Speedinvest

And lastly, conversions as well as churn rates of cohorts need to be monitored closely in series A for SMBs. A conversion rate (CR) from free to paid of more than 5% is good. At the same time CAC needs to be taken into account when looking at CR: How much did you spend for converting these customers?

Churn rate in particular also needs to be tracked if you are selling to enterprise businesses. So, for instance, if a large number of customers who have been with you for the last 2-3 years cancel their contracts - well - that's a bad sign. A rough benchmark is 80% retention and 20% churn rate at this stage.

Target Group	Pre-Seed	Seed	Series A
SMB	Downloads Signups GitHub Engagement	Downloads Signups GitHub Engagement	CAC Churn Rate
Enterprise	Nr. Of POC's	Nr. Of POC's ACV	ACV ARR & bookings Churn Rate

Tab. 1: Amended from Marcel van der Heijden, 2020

Fintech

Things to look out for when assessing the fintech market are benchmarks, verticals, and target customers. Benchmarks tend to be less straightforward in fintech than in other markets. When looking at the market it can be segmented into verticals, i.e. lending, banking and insurance. When it comes to the different stages pre-seed, seed, and series A, the lines are typically blurred with some pre-seed rounds ranging from 500k to 1.5M and seed rounds of 1M to up to even 5M. On another note it is important to see that it takes a lot of time from a regulation and billing perspective in the highly regulated fintech industry. Many startups do not manage to achieve metrics which are usually expected at series A, so on average slightly more money is needed to get from seed to series A.

Beyond benchmarks and market segmentations the fintech market differs from an investor's point of view also in terms of round sizes. Companies are able to raise about €1.5M in pre-seed. Sometimes these round sizes can happen even pre-launch if, for instance, it is a new product for an untapped market. Whereas for others, where there are already established competitors, a beta product or basic MVP needs to be there in order to raise such rounds.

Pre-Seed

For B2C products the first level of customer interest should be signaled in order to show a proxy of early market validation. This can be done with some beta customers as well as customer references, waiting lists, types of customers, or their probability of conversion. The probability of conversion is only a proxy and is assessed by looking at the users who onboarded to the product and the other activities they completed.

Having clear assumptions and hypotheses about consumers in place is also key in B2C. For instance, a mass-market product around simplicity in investing requires going through demos and prototypes and understanding every behavioral rationale behind the features.

For B2B products the core metric to keep in mind are PoCs and it would be ideal to have either one or two of them in place at pre-seed. Especially enterprise sales is a challenging field due to long sales cycles and it requires a thorough understanding of how the buying center works. Anthony Danon, Associate Partner, at Speedinvest, states that you then need to really show the potential to do a land and expand strategy. This means to show the ability to expand a deal, for instance, with 30k ACV rather quickly so it becomes a 150k ACV deal in the distant future by horizontal expansion or by upselling. This can be assessed through reference calls with target industries to understand their types of usage.

Additionally, having a clear plan in place for approaching markets and a strategy on how to further build the product is key. What needs to be shown when it comes to products in pre-seed in fintech are scalability and privacy and if it can be integrated easily into an existing workflow. If not, enforcing a shift in attitudes, which a banking user almost tends to have no tolerance for, can be a true barrier. Also it needs to be questioned whether they do really understand the industry and how they can integrate that into existing workflows.

Seed

The seed stage is usually where the launch happens for fintech consumer products. Usually, there should be a full MVP. What is essential here is to show the hook in the market of the product.

In addition to understanding the customer base and some first customers, a well thought through go-to-market strategy should be existent to show how to control CACs at a moderate level. Ways how to assess the uptake and customer love at this point in time is to check engagement metrics and NPS.

In the earlier stages there should also be a focus on top of the funnel, that is acquisition metrics, for instance CTR of ads, website visitors, or impressions.

For the B2B side in the seed stage at least one customer should have converted and proven the in the pre-seed projected ACV. Additionally, 2 -3 should be in the pipeline with a clear approach on how to reach customers and how to expand the feature set.

For insurance and lending, the type of customer is extremely important. According to Anthony Danon, you're not trying to grow customers, but you're trying to grow profitable customers from the get-go. For instance, a company which is offering home insurance is targeting people who are moving, people who just bought a new house or newly engaged couples. Their competitors are doing paid acquisition via Instagram and target

"People don't find finance sexy. No one does. And so you really need to find a painkiller hook (...) for me as a consumer I don't care about a cool app, but I deeply care about my finances."

Anthony Danon
Associate Partner, Speedinvest

students who churn after a year because they leave their apartments again. Hence, in insurance the loss ratio is an important metric to track, meaning how much of the total insurance premium gets claimed.

Series A

For payment companies, they will need to focus on increasing payment volume as they make money on a transaction basis. Lending companies need to carefully balance growth and risk. It is not beneficial to give out as many loans as possible but rather give out good credit. This requires the calculation of non-performing loans (NPL) because in the end, it is the repayment rate that matters. Christopher Zemina, Principal at Speedinvest, states that, if an investor only drives growth at a lending company, it could backfire at some point: For example, interest rates - A high interest rate means that there can be higher NPLs.

"What we're seeing right now is that monetization becomes important, as often early-stage based companies raise on the product and the vision - however, over time monetization must follow."

- Chris Zemina
Principal, Speedinvest

In addition to these financial metrics you need to know your CAC, LTV, and CAC:LTV at any point in time. The rule of thumb of 3x LTV > CAC usually applies. And if you work with assumptions for LTV, always make sure to paint a realistic picture.

Target Group	Pre-Seed	Seed	Series A
B2C	Nr. of beta customers Customer references Probability of conversion	Nr. Of customers LTV MRR Engagement Metrics NPS	MAU MRR, MRR Growth Gross Payment Volumes CAC, LTV, CAC:LTV EBITDA, net income
B2B	PoCs (and plan of further integration and scalability)	Converted PoCs ACV	MAU MRR, MRR Growth Gross Payment Volumes CAC, LTV, CAC:LTV EBITDA, net income

Tab. 2: Amended from Anthony Danon & Christopher Zemina, 2020

Health & Consumer Tech

Pre-Seed

Important indicators to be successful and to be able to raise a pre-seed round are two things: the team and the vision.

Seed

The focus of seed rounds is to achieve actual revenue and top line growth rates but also seed stage investors look at unit economics. The growth rates depend on the industry, marketplaces might need to show LTV whereas B2B SaaS companies might need to focus on MRR or in some cases ARR. Associate Partner at Speedinvest Markus Lang thinks the one important step to consider is that one actually wants to focus on recurring revenue.

He states that this shows a company's growth rate and can thus massively influence the decision making of investors. Essentially, showing the history of growth is important. A rule of thumb would be that ideally over the first two years you should grow 3X YoY and 2X YoY for the following three years.
One important non-financial KPI to track across stages is retention (DAU, WAU, MAU). Annual subscriptions are a bit more difficult to track and to plan. In this case, according to Markus Lang, you need to show that your users are not only paying but also using the product. This is especially important when it comes to early stage deals in combination with annual subscription packages as you can not see renewal rates.

In these cases tracking user retention is extremely important since users who come back on a, for instance, daily basis are more likely to renew their subscription. Depending on the business different retention cohorts need to be analyzed, these can either be activity or payment retention cohorts or basket sizes and their development can be tracked.

"You need to show that your users are not only paying but also using the product."

Markus Lang
Associate Partner, Speedinvest

Series A

A third category to look at are unit economics. LTV, CAC and LTV:CAC ratio need to be monitored carefully with the gold standard being 5x LTV > CAC. Markus Lang states that 3X, 3.5X, 4X growth should be shown at an early stage and are desirable.

Over time the LTV:CAC ratio should become better but only few startups manage to show a ratio of 5X. All in all it is about showing the previous growth trajectory and the potential for future expansions. Depending on the industry in seed stage, revenues can range somewhere between €10k to €30k or above. Investors focus primarily on unit economics. The benchmark and standard here is to achieve €100,000 in MRR.

Target Group	Pre-Seed	Seed	Series A
B2C	/	Revenue MRR Growth Rates (absolute growth)	Revenue MRR Growth Rates (absolute growth) CAC, LTV, LTV:CAC Retention Cohorts
B2B	/	Revenue MRR Growth Rates (absolute growth)	Revenue MRR Growth Rates (absolute growth) CAC, LTV, LTV:CAC Retention Cohorts

Tab. 3: Amended from Markus Lang, 2020

Industrial Tech

The deep tech industry is characterized by its diverse businesses. You'll find deep tech companies which require a high amount of consulting and onboarding but also companies which resemble B2B SaaS.

Pre-Seed

Pilot customers should be the main focus for deep tech alike companies in the pre-seed phase and the customer feedback is important to further build the technology.

Seed

In this phase, it is important to look at the conversion of pilots to paying customers. There should be about 10 - 20 PoCs in the seed stage, which of course varies depending on the industry. Ideal would be at least one conversion.

In a next step ACVs should be monitored closely. Meaning what are the ACVs, how are the contracts structured and who are the buyers. Additionally, sales cycles are important in the late seed stage from an investors perspective to assess the viability of a business. It is important to have the facts at hand of how long it takes to get from the initial point of contact to the stage of converting the lead and finally to deployment. In the end, you need to be able to answer the question of effectiveness of the sales cycle.

> Sales cycles are important in the late seed stage from an investors perspective to assess the viability of a business.

For B2B SaaS businesses selling to SMBs it is crucial to track CAC and conversion rates of different channels, whereas for companies selling to large enterprises ACV is much more important to monitor.

"Ask yourself: Is the effort of the investment during the sales cycle worth the revenue that you can generate with it?"

Marie-Helene Ametsreiter
Lead Partner, Speedinvest

Series A

Before a series A round is raised the conversion from PoC to a regular customer needs to be proven. Retention and therefore scalability are important factors in this stage.

Target Group	Pre-Seed	Seed	Series A
B2B SaaS	NPS	CAC Conversion Rate Margins	MRR/ ARR CAC LTV
Enterprise	Nr. Of POC's	ACV Sales Cycle CR POC to Customer	ACV Conversion Rate Margins CAC

Tab. 4: Amended from Marie-Helene Ametsreiter, 2020

Marketplaces & Network Effects

The critical factor to keep in mind about marketplaces is the chicken-and-egg problem and how to build up the demand and supply side simultaneously.

Pre-Seed

Usually the start lies in building up the supply side, sometimes also with the demand side. When starting with the supply side, the outreach to different suppliers needs to be monitored by tracking the number of signups to the marketplace and the conversion from signup to user. A user can be defined as someone who has created a profile and performs key actions on a regular basis. In this stage it is mostly about how users can be acquired on both sides of the marketplace.

Seed

Depending on the marketplace different KPIs need to be tracked. For some daily usage is key whereas others are used on a monthly basis. Additionally, share of wallet should be tracked which is a great indicator to show if the marketplace is working.

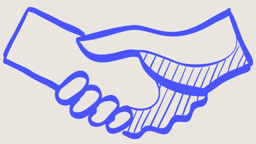
Another aspect special to marketplaces is liquidity, which means whether or not both sides are sufficiently catered. Looking at it from the demand side for instance, this means that a high amount of customer requests need to be fulfilled in order to be a successful marketplace. Across seed and series A cohorts need to be monitored closely. It can be distinguished between user, order and revenue cohorts. It is easier to monitor the percentage changes versus month zero than the absolute numbers which are interesting in context of revenue only. Another interesting aspect to look out for are power user cohorts, that is core users. NPS tracking should be activated as well. Virality needs careful monitoring too, and the virality coefficient should be greater than 0.25. To sum it up, seed is all about fostering engagement.

Series A

Critical in series A are still user engagement figures but also unit economics and gross margins in order to show how the venture can become a healthy business. The standard and ideal case for LTV vs CAC is 3X. Usually, a cut off after two to three years is taken for lifetime value. Everything beyond this timeframe is hard to predict.

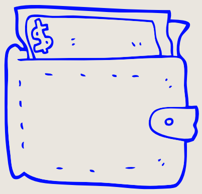
MARKETPLACE SPECIFIC METRICS

Due to the special nature of marketplaces, a number of KPIs and factors should be monitored across different stages. The marketplace team of Speedinvest published a dedicated marketplace scorecard which is an in-depth resource on marketplace specific metrics (Specht, P., 2018). Here are a few of them to keep in mind:



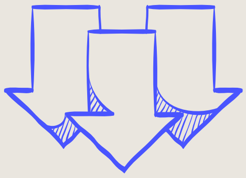
BUYER-SELLER RATIO

Are both demand and supply side satisfied? The buyer-seller ratio signals whether there are more buyers or sellers. Lacking traction on one side is dangerous to the marketplace.



SHARE OF WALLET

You are looking at buying frequency, order volume, average spending volume per month, and spending on the underlying marketplace. The higher this figure, the better for the marketplace. It signals how important your marketplace is and helps to come up with price points.



MULTI-TENANTING

On how many other platforms is your supply side active? The lower this ratio, the better for your marketplace. It can be hard to get to this figure but a proxy can be established by taking samples and researching other marketplaces and their supply side.

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WHAT TO TRACK WHEN

Target Group	Pre-Seed	Seed	Series A
Consumers	Signups CVR Signup to User	DAU, MAU, WAU Cohorts (user, order, revenue, power users) Share of Wallet Virality Coefficient NPS	DAU, MAU, WAU CAC, LTC, LTV:CAC Gross Margins NPS Cohorts (user, order, revenue, power users) GMV (Gross Merchandise Value)

Tab. 5: Amended from Philip Specht, 2020

Know Your Metrics By Heart

> There is an abundant set of metrics which you could potentially look at.

You decided to look at your metrics and to measure what you are doing? Congratulations on your first step towards a data-driven way of working! However, as you might have noticed already there is an abundant set of metrics which you can potentially look at and it is extremely difficult to keep track of what to look at and at which stage you should consider which metrics. In the following chapter, you will find a systematic overview of the most important metrics clustered according to the AARRR funnel.

In the chapter about acquisition, you will find metrics that are all about growth and centered on the question of how customers actually find you. Moving on to the next step in the funnel in the activation chapter you will find metrics about user experience. The chapter retention is all about whether or not users come back. In the section about referral metrics, we will look at how likely your users are to tell others about you and the revenue chapter includes metrics about monetizing your ideas.

Acquisition Metrics

In this section, we will look at the pace in which a business is growing.

On-Page Events

Theory
Signups, downloads, page views and sessions are good examples for on-page metrics and a great starting point to assess the interest in your product (Datarockets, 2019). You are able to learn how customers found your website and what they are looking for (Dopson, E., 2020). Additionally, in your acquisition metrics, you should be measuring signups if you are offering a subscription-based product. You can track total signups, signups by app and signups by referrer (Egan, J.).

Application
- Measure and track these metrics in your Google Analytics account or in a Google Data Studio dashboard (Datarockets, 2019).
- Most businesses will use a combination of different channels which ultimately leads to the fact that different metrics need to be tracked. In a first step, focus only on 3 core channels and test whether or not they are working for your user acquisition.

Consider the following activities to grow your traffic:

- SEO and keyword optimization, try to syndicate content with partners
- Break blog content in smaller pieces and repurpose content (publish consistently)
- Launch paid search/social campaigns and re-marketing campaigns (SaaSPLG.com, 2020)

Practice
For freemium approaches you can look at the number of downloads and signups.

Conversion Rate

Theory
The Conversion Rate (CVR) is the percentage of visitors or users who perform a certain desired action. This can be essentially anything, starting from visitors to paying customers or any other KPI you would like to track. This ultimately shows you how engaging your content is to users. Imagine no user would perform a single action - something would be terribly wrong because in the end, CR signals your product-market fit (PMF) (Dopson, E., 2020). Usually, you would set up a conversion funnel that consists of a sequence of CRs and ultimately leads to the purchase of a product (Datarockets, 2019).

When doing this, it is important to distinguish between different flows and look at the conversion funnel for new user acquisition, retention, and resurrection (Egan, J.).
A different approach is to sort converters and non-converters according to the source which tells you where to allocate your conversion rate optimization efforts (Dopson, E., 2020).

Andrew Chen supports the same approach suggesting to look out for engaged/ active users who are ultimately converting to paid users and determine where they come from in order to double down on this specific channel to optimize conversion (Chen, A.).

Application
Define the relevant conversion and set up a conversion funnel (Datarockets, 2019): This can be easily done by setting up goals in Google Analytics (Dopson, E., 2020)

fx

$$CR = \frac{\text{Visitors who take actions}}{\text{All Visitors}} \times 100$$

Practice
The average website CR should be about 1.95% (the best ones show a CR of 4.77%) (Dopson, E., 2020).

CR from free to paid users of more than 5% is good for deep tech companies selling to SMBs. At the same time, CAC needs to be taken into account when looking at your CR: How much did you spend for converting these customers?

For B2C companies in the fintech area the CR is crucial from day zero. In the pre-seed phase, the probability of conversion is assessed by looking at the users who onboarded to the product and other activities they completed, such as the identification verification which is an important barrier to pass.

In the industry, field conversions play an important role at the seed stage. It is important to look at the conversion of pilots to paying customers. Ideally, there would be about 10 - 20 PoCs in the seed stage, which of course varies depending on the industry. Ideal would be at least one conversion. B2B SaaS companies need to track their CR for the different sales channels respectively.

Click-Through-Rate

Theory

A Click-Through-Rate (CTR) shows the ratio of clicks in comparison to the total impressions. It is often used for measuring the performance of ads and therefore, it is important to any business which heavily relies on paid ads as an acquisition channel (Datarockets, 2019).

Application

fx

$$CTR = \frac{Clicks}{Impressions}$$

Practice

In the earlier stages of seed there should be a focus on top of the funnel, e.g. acquisition metrics, for instance CTR of ads, website visitors or impressions for fintech startups.

Virality Coefficient

Theory

This number measures the organic growth of your business and shows how many new users are generated by a current user who is endorsing your product. If you have a viral coefficient of 0.5 it shows that for every 10 new users acquired you are getting 5 on top of that. The higher the virality coefficient, the lower your CAC will be (Datarockets, 2019).

Application

fx

K-Factor = Invitation sent per user * CR

Practice

The benchmark ranges between 0.25 and 0.5, which is enough to amplify other channels (Chen, A.). Virality is achieved once the k-factor is > 1.0 (Datarockets, 2019).

BENCHMARK

0.25

A virality coefficient should at least be 0.25.

Activation Metrics

Activation metrics indicate the value of your product and how willing customers are to use and ultimately pay for it.

Activation Rate

Theory
This metric shows you at which rate you convert acquired customers to active customers. An event for becoming an active customer could be the first purchase. When defining your activation event keep in mind to show actual figures. Using signups as an activation event might look good on paper but does not reflect on the actual usage and engagement with your product (Datarockets, 2019).

There is a certain bare minimum a user has to do in order to use your product which is defined as activation. Of course, this number should be as high as possible. Additionally, it also makes sense to measure the time to activate which tracks how long it takes a user to complete the activation process (SaaSPLG.com, 2020).

Application
Activation Rate = the % of your customers that reach activation

fx

$$AR = \frac{\text{Total Activated Accounts}}{\text{Total Accounts Created}}$$

BENCHMARK

25%

Out of all customers a min of 25% should be active (which validates TAM)

Customer Acquisition Costs

Theory
This is the cost of convincing a potential customer to buy your product (Neilpatel). CAC must account for all costs for user acquisition (e.g. discounts). However, it has to be distinguished between organically acquired users and users acquired via paid marketing in order to evaluate the viability of the startup. While blended CAC takes into account both

types of users, paid CAC makes an important distinction and only measures users acquired via paid channels (Jordan, J. et al., 2015). While CAC is certainly important to B2C companies, B2B companies shall not underestimate it (Dopson, E., 2020). B2B marketers need to take into account, besides their basic marketing and sales expenses, their “time-costs” for acquiring customers (Dopson, E., 2020). For companies with network effects, where value is added with an increased number of users, the conversion of organic users which shows a low CAC is crucial. Theoretically, CAC should decline over a period of time (Jin, L., Coolican, D., 2018).

Application

Start by analyzing your overall + your CAC for the individual customer segments (Skok, D., 2019).

fx

$$\text{Blended CAC} = \frac{(\Sigma \text{ Sales \& Marketing Expenses})}{\text{No. of New Customers Added}}$$

If you are still at an early stage only take a portion of your sales and marketing expenses which reflect a realistic ratio when you are at scale, otherwise your CAC would be too high (Skok, D., 2019).

Practice

CAC should not be blended and it should be split into paid and organic customers separated by channel. If one channel does not work a certain time, don’t abandon it right away. Channels are subjective to demand. If everyone is advertising on Facebook this will likely result in a higher CAC due to increased demand. Go back and revisit channels from time to time, they are cyclical (Yin, 2020).

fx

$$\text{Paid CAC} = \frac{(\Sigma \text{ Sales \& Marketing expenses})}{\text{No. of new Customers Added via paid marketing}}$$

Successful SaaS companies spend 20-30% of their LTV on customer acquisition (blended) (Lemkin, J., on Quora, 2020). But defining average benchmarks for CAC is hard as it can vary greatly, from $400 to $5,000 per acquired customer or even up to $100,000 for certain sales teams.

For deep tech companies Marcel van der Heijden states that the CAC should be smaller than your annual contract value and for the best companies it's about half. For B2B SaaS industries it is crucial to track CAC and conversion rates of different channels.

Retention Metrics

Retention metrics give an indication of the quality of growth.

Customer Retention Rate

Theory

Indicated as percentage, this metric shows how many users retain after their initial engagement with the product (Datarockets, 2019). A useful concept to keep in mind are cohorts. Cohorts are simply groups of customers who, for instance, signed up for your product in the same month (Skok, D., 2019). When looking at companies with network effects - meaning the more user the higher the value - the newer cohorts which joined recently and are benefitting from a large network should show a better retention rate than older cohorts. However, what can be seen in practice is that these older cohorts often show a better retention rate because they are early adopters and hence, highly motivated users and thus stick around longer (Jin, L., Coolican, D., 2018).

Application

For the customer retention rate (CRR), subtract from the number of customers you have at the end of the given time period (E), the number of newly acquired customers (N). Divide this number by the number of customers you had at the start of the period (S) (Datarockets, 2019).

fx

$$CRR = \frac{(E-N)}{S} * 100$$

Practice

Retention rates can be measured in terms of activity levels or also payment retention cohorts.

Active Users

Theory

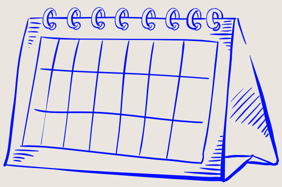
You can look at your daily active users (DAU), weekly active users (WAU) or monthly active users (MAU). In order to find your “best” users, you can segment them based on demographics or behavioral data. A good way to understand user behavior is to further dive into the behavioral segmentation and look at the so-called power users. It shows you particular core actions that were performed in any given time frame. Especially businesses with network effects should see an increase of core actions performed as the company matures and more cohorts join. This means that users get a higher utility due to a higher overall number of users (Jin, L., Coolican, D., 2018).

The principles of product-led growth suggest the same theory, an active user should be defined as someone who is performing a key action (SaaSPLG.com, 2020).

Depending on the product it makes sense to track different types of active users. You can find the two most common ones below.

DAILY ACTIVE USERS (DAU)

This metric shows you how many unique users engage with your product on a daily basis (Datarockets, 2019). However, it does not reflect on the quality of the users nor on their retention. A spike in DAU could happen for instance only due to a customer acquisition campaign and not because suddenly people start to love your product. Thus it is important to measure core daily actives. It gives you more insights on the quality of the users by counting people who used the product on a regular basis. Calculating Core Daily Actives is easy: simply look at the users statistics on a given day and calculate how many of those have used your product in the weeks before (Egan, J.).



MONTHLY ACTIVE USERS (MAU)

This metric shows how many unique users engage with your product on a monthly basis (Datarockets, 2019). There are different ways to interpret MAU. You can monitor MAUs by app, gender or country (Egan, J.). Another useful subcategory of this metric is MAU Accounting. It helps you to identify the factors which are contributing to your monthly user growth.

Look at the following 4 splits to identify where your user growth comes from:

- Signups
- Resurrection
- Existing User Churn
- New User Churn

(Egan, J.)

When splitting up the user growth in these four categories it is important to track the total number of users over time to identify outbreaks and unusual activities. In the graph below you can see that all four metrics increased over time. Under MAU Accounting Trend the relationships between the different metrics are shown and certain activities become apparent. In this case there is a spike in existing user churn, a decrease in resurrection as well as a stark increase in sign ups. Comparing these trends with the date of your marketing activities or product updates help you identify possible catalysts for these events. Once the reasons for sudden spikes or drops are identified it should be acted upon to further increase growth (Egan, J.).

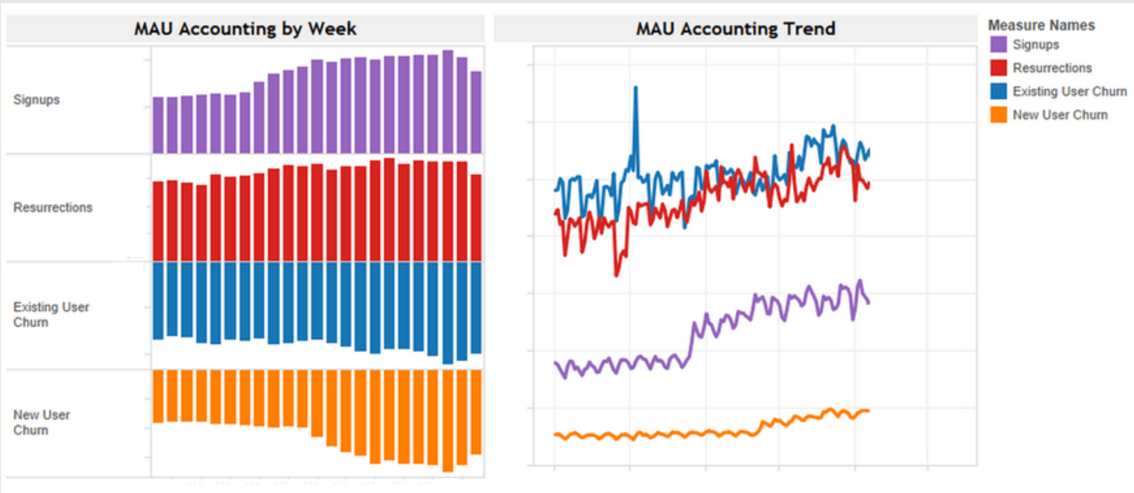


Fig. 2: Egan, J.

A more detailed view was established by Andrew Chen who used the Growth Accounting Framework to explain how to predict the future and whether or not your company is likely to grow in terms of MAU. Therefore, he uses two loops to improve the total number of MAU: the activation loop consisting of new and reactivated users minus users who go inactive and the engagement loop of current users. The new and reactivated user acquisition is quite difficult to scale and could only be reached with tools like viral loops. These loops illustrate leading indicators that are needed to understand your overall quality of growth and lets you do solid forecasts (Chen, A.).

Firstly, in the acquisition loop, the key question to answer is how existing cohorts can lead to new users. This concept is built in the fundamentals of the product. For instance, user-generated content on Wikipedia adds value and fuels the acquisition of new users which in turn generates more value and so on and so forth. When this type of growth is achieved and new users lead to the acquisition of more new users other linear non-scalable channels can be factored in (e.g. PR, content marketing). These channels do not fuel growth but rather drive the initial traffic into the acquisition loop (Chen, A.).

Secondly, the engagement loop needs to be factored in. Basically, you model how an engaged user leads to other engaged users. Ways to achieve this are either via social feedback (e.g. a user contacts another user on LinkedIn, who in turn does the same) or via personalized content (e.g. Netflix) (Chen, A.).

GROWTH ACCOUNTING FRAMEWORK

+	New + Reactivated	5,000
-	Inactive	1,000
=	Net MAU	4,000
+	Engaged	10,000
=	MAU	14,000

Tab.6.: Amended from Chen, A.

Application

- Pay special attention to the definition of active users which may vary from business to business. For instance, you can choose to define active users as users who open the app once per day/week/month or as users who made a purchase conversion, for instance (Datarockets, 2019).

TRACK THESE RATIOS TO SEE HOW ENGAGED YOUR USERS ARE

- DAU to MAU
- WAU to MAU
- DAU to WAU

- Strong activation rates are necessary for scaling the service and to achieve sustainable growth. That being said, it is important to split the different segments in order to understand the characteristics of the best and worst performing segments (Egan, J.).

Practice

MAU is often used for marketplaces and subscription-based businesses whereas DAU is often used for ad-based businesses since their daily usage is heavily influencing their revenue stream (Datarockets, 2019). A good benchmark for DAU/ MAU is > 50% since this signals that the product is part of a daily habit (Chen, A.)

Churn Rate

Theory

The churn rate indicates the percentage of active users who stopped using your product (Datarockets, 2019). Over time, you want to minimize this number as much as possible. The solution for this is to achieve a negative churn which happens when the expansion revenue from existing customers exceeds the lost revenue from churning customers (Skok, D., 2019). You can do this by implementing a variable pricing scheme that lets the user expand the usage of the product and hence pay you more. A second option would be to up or cross-sell them to other products. Look at the two graphs below which illustrate the principle of negative churn nicely. On the left side, you see the case of a monthly moderate churn rate whereas on the right side you see what happens when a few people churn but you manage to substantially increase the revenue from your existing customers (Skok, D., 2019). Finally, it is essential to find out why customers churn in order to tackle the issue which causes them to leave (Law, 2016).

Application

fx

$$\text{Customer Churn} = \frac{\text{Churned Customers}}{\text{Total Customers}} * 100$$

fx

$$\text{MRR Churn} = \frac{\text{Churned MRR}}{\text{Previous Months MRR}} * 100$$

- Start by analyzing your overall and your churn for the individual customer segments for both customer and MRR churn (Skok, D., 2019).

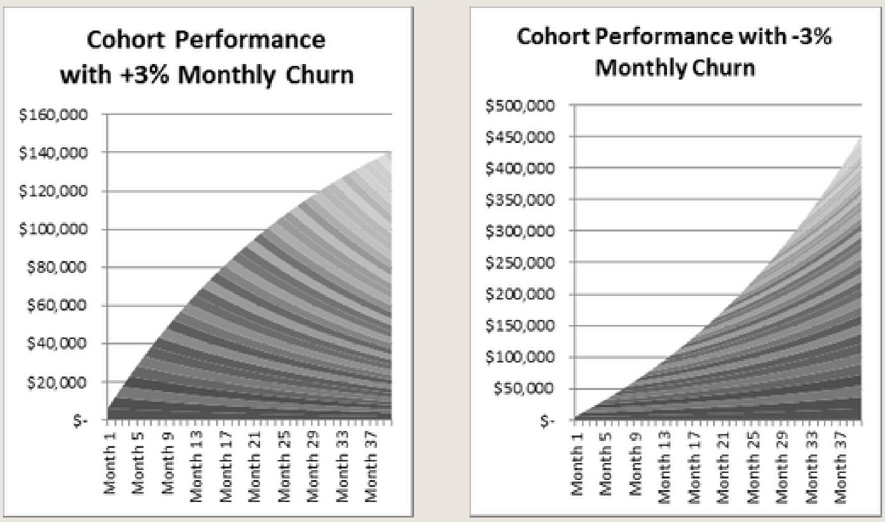


Fig. 3: Skok, D.

- A useful tool for analyzing churn is cohort analysis. A cohort is simply a fancy term for a group of customers who signed up for your product in the same month, for instance. This helps you to see how early customers churn or if the churn rate stabilizes after a while. In order to minimize churn, you can make improvements to your product. How do you know if it helped? Simply look at the cohorts after you implemented the changes and see if you have been successful.

- When conducting an in-depth analysis of your churn rate look into revenue AND customer churn! If you have a churn rate of 10% it could be that 9 small and 1 big client left but you can also have the same churn rate of 10% with 9 big clients and one small one leaving you. This would have a completely different impact. To sum it up, monitor the percentage of the retained cohorts over time as well as the percentage of MRR retained over time (Skok, D., 2019).

- Reasons which cause a high churn rate could be that you are not meeting your customers' expectations, your product does not offer enough value for the user to stick around and pay, your customers did not fully adopt the product and are not using key sticky features or the problem of who you are selling to, for instance, small SMBs who are going out of business and hence churn (Skok, D., 2019).

- If churn is your problem there is only one way forward: go out in the field and talk to your customers to understand the underlying problem. If you are unable to fix churn you are solely filling a leaking bucket (Skok, D., 2019).

Practice
Churn rate in particular also needs to be tracked if you are selling to enterprise businesses. If a large number of customers who have been with you for the last 2-3 years cancel their contracts, that's a bad sign.

BENCHMARK

80%

Retention Rate

20%

Churn Rate

Cohort Activity Heatmap

Theory
the cohort activity heatmap is building upon a cohort analysis. As already stated in the name of the metric it shows the activity levels of your cohorts (Egan, J.). It differs from the usual cohort analysis in a way that shows real-time behavior instead of reactive data on your customer churn. This means that you are able to see when your user engagement drops before they churn and you can take immediate actions.

Application

In order to build a cohort analysis you will need to include the following variables into your matrix:

- X-axis: number of days passed and new cohorts
- Columns: cohort joined on that day
- Width of column: number of users in cohort
- Y-axis: number of days passed and cohort activity level
- Colour: Activity level of cohort
  In order to determine the activity level of your cohort you can implement a customer engagement score and score users who perform certain key actions higher than others. For instance, people who are posting a photo on Facebook are more engaged and less likely to churn than people who log in and view one page. Allocate more points to the features you think are the "stickiest" (Skok, D., 2019).
  In a second iteration, you can prove your definition of sticky features if you go back and observe cohorts which are retained. Did they engage with these core features? Then you have been on the right track (Skok, D., 2019).

Specific actionable insights can be derived from this heatmap when you look into times where your users have been active for a longer period of time in comparison to where users have been inactive shortly after signup. Afterward, you can check whether certain changes might have influenced this behavior, e.g. change in product, different user acquisition campaigns, etc. Another thing to look into is when your cohort sizes have been particularly large and compare it to past acquisition campaigns.

Finally, it is all about identifying cohorts which stick for a long period of time and are frequent users. Test different campaigns and product alterations to find out which activities attract highly valuable cohorts.

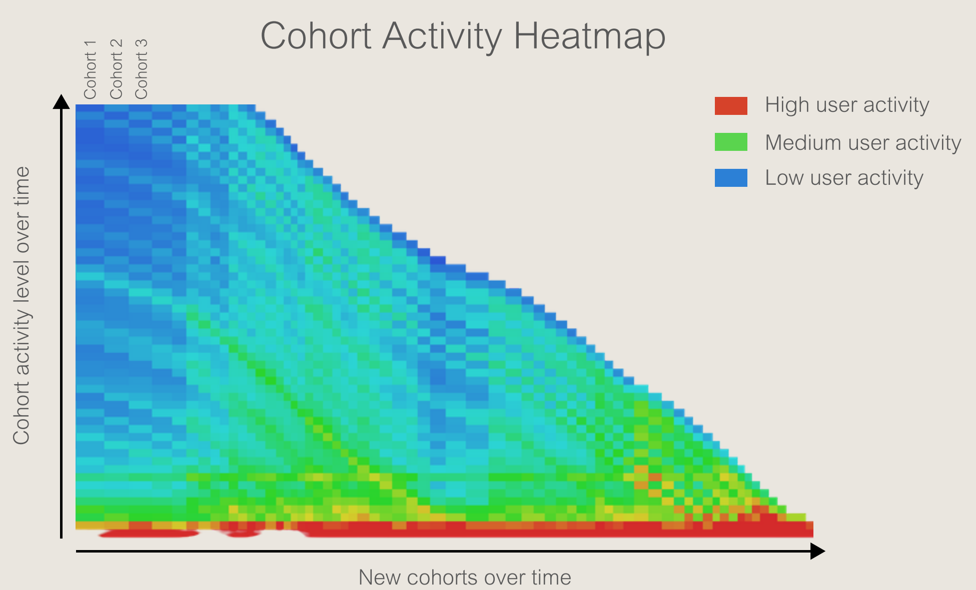


Fig. 4: Egan, J.

Practice

Ideally the cohort flattens and >20% of the cohort stick with your product for a long period of time.

Tracking user retention is extremely important since users who come back on a, for instance, daily basis are more likely to renew their subscription. Usually, there is a good correlation if people stop using the product the majority also stops paying for it.

Across seed and series A cohorts need to be monitored closely. It can be distinguished between user, order and revenue cohorts. Here, it is easier to monitor the percentage changes versus month zero. Only for revenue it is interesting to see absolute numbers. Another interesting thing to look out for are power user cohorts.

Already at the pre-seed stage it is essential to track retention, cohorts, DAU/ WAU/ MAU, and how the users engage with the app.

The use of the activity heatmap is not suitable for all startups, though. Still there are ways to set up cohort analysis which generate maximum insights. Refurbed, for instance, monitors retention cohorts closely. They are observing purchase rates and purchase frequency of each cohort on a monthly basis and combine these insights with engagement metrics (e.g. opening rates of emails).

"Usually you can see a nice correlation. If usage drops the willingness to pay goes down and people are likely to churn."

Markus Lang
Associate Partner, Speedinvest

Referral Metrics

Referral metrics show whether or not users are willing to refer a product.

Net Promoter Score

Theory

An indicator for customer loyalty is NPS which can be assessed by asking customers how likely they are to recommend your product (Datarockets, 2019). Moreover, your level of customer happiness acts as a good indicator for churn (Skok, D., 2019), customer loyalty and therefore also future revenue of a company.

Application

Start your data collection, design who you wish to survey and at which touchpoints (Genroe) "How likely are you to recommend this product to a friend?" Then cluster your survey results:

- Detractors = rating from 1 - 6
- Neutrals = rating from 7 - 8
- Promoters = rating from 9 - 10

fx

NPS = %promoters - %detractors

2.6X

On average, a promoter is worth 2.6x more than detractors

83%

83% of satisfied customers are willing to refer a product

4X

People are 4x more likely to buy if they get a referral from a friend

16%

Referred customers are in turn 16% more likely to stay

- Start by analyzing your overall NPS and your NPS for the individual customer segments (Skok, D., 2019).
- Based on your survey insights, start implementing changes to work on your customer loyalty.
- A NPS survey is one way to determine your customer satisfaction. Alternatively, you can track sentiment via natural language processing (NLP) using tools like Google Insights, Google Alerts or Brandwatch (Dopson, E., 2020).

Practice

External benchmarks do not offer much insight due to the fact that they depend largely on industry, country and other factors. Thus it is recommended to use internal KPIs and to strive to continuously improve them (Genroe).

During the seed stage it is vital for fintech startups to closely monitor their NPS to assess the uptake and customer love at this point of time. A problem in early stages mentioned by Peter Windischhofer, the founder of Refurbed, is the small size of the sample. The implication for NPS is that if it changes by, for instance, 10% on a weekly basis and there are less than 100 responses it cannot be said whether or not this is simply a statistical error or a significant trend.

A workaround is to lower the scale to either yes or no questions to increase significance by lowering the answer options.

What the Refurbed team did in the beginning was to call every single customer to first of all increase response rates and second of all get more valid insights. Their current NPS for their specific industry is at 70, which is extremely good in comparison to others.

Revenue Metrics

In this chapter we give an overview of revenue metrics.

Customer Lifetime Value

Theory

The customer lifetime value (LTV) shows the net profit you can expect from one customer over his/her lifetime (Datarockets, 2019) (Jordan, J. et al., 2015). A reason why it is essential to track LTV is to obtain a clear understanding of how much value you generate per customer after subtracting CAC (Jordan, J. et al., 2015).

Application

Start by analyzing your overall + your LTV for the individual customer segments (Skok, D., 2019). In order to calculate the LTV you need two metrics:

- Contribution margin per customer per month = Revenue per customer per month - variable costs associated with a customer
- Average lifespan of a customer = 1/monthly churn

fx

LTV = Contribution margin c/m * Average lifespan

Practice

- The focus of seed rounds is to achieve actual revenue and top line growth rates, but also seed stage investors look at unit economics (Lang, M., 2020).
- Usually, a cut off after two to three years is taken for lifetime value. Everything beyond this is hard to predict.

BENCHMARK

3x = LTV > CAC

LTV:CAC Ratio

Theory

The ratio of these two metrics indicates the level of sustainable growth of your business (Datarockets, 2019). It essentially tells you if the profits from customers exceed your costs of acquiring them (Skok, D., 2019). If your LTV is higher than the acquisition costs, your business is sustainable (Samani-Sprunk, T., 2020).

Application

- Start by analyzing your overall + your LTV:CAC for the individual customer segments (Skok, D., 2019).
- Look at CAC and LTV individually (overall and per customer segment) to see which levers you can take for optimizing the overall ratio (Skok, D., 2019).

fx

$$\text{LTV:CAC Ratio} = \frac{\text{LTV}}{\text{CAC}}$$

Practice

CAC should be lower than LTV. However, in the beginning you probably don't know the value of your customers (Yin, 2020).

The Average LTV:CAC ratio is around 3:1 and hypergrowth LTV:CAC 5:1 (Samani-Sprunk, T., 2020). CAC should be recovered in about 5 to 7 months (Skok, D., 2019).

In addition to financial metrics CAC, LTV and CAC:LTV are important to know. When it comes to benchmarks usually the rule of thumb of 3x LTV > CAC applies. Working with your own realistic assumptions on customer churn and LTV is important to paint a valid picture (Christopher Zemina, 2020).

LTV, CAC and LTV:CAC ratio need to be monitored carefully with the gold standard being 5X LTV > CAC which only very few startups manage to achieve.

WAYS TO DECREASE YOUR CAC

- Focused target market
- Customer referrals
- Inbound marketing
- CRO
- Differentiation to competition
- Increased brand awareness
- Use freemium or free trials
- Optimize customer acquisition
- Capitalize on referrals - if possible
- Automate sales processes
- Use demo videos - reduces the amount of salespeople needed to explain a product (Skok, D.., 2019)

WAYS TO INCREASE YOUR LTV

- Cross- and upselling
- Increase referrals
- Reduce churn
- Add repeat business
- Determine the main source of customers with high LTV and pinpoint your ideal target group

Revenue

Theory
Revenue indicates the total value of all sales in a given period (Datarockets, 2019). A more in-depth analysis can be achieved by measuring the return on investment (ROI) which equals revenue per dollar spent. In the end, it's about showing the effectiveness of your actions and achieving your business objectives (Dopson, E., 2020).

Application
Measuring revenue growth is an important fact across all business models, especially in the stages MVP, Scaling and in established businesses.
Letters of intent or bookings are not part of revenue (Jordan, J. et al., 2015)

fx

Revenue = Σ Goods/ Services Sales

Monthly Recurring Revenue

Theory
This is the monthly sum paid for subscriptions for your offering. MRR provides a profound basis for revenue predictions which is of high interest to external stakeholders such as investors. Moreover, it is important to continuously track the ratio of total revenue vs. MRR as it indicates the level of stability of the revenue stream (Datarockets, 2019).

Application
Business models in IoT and subscription-based businesses need to monitor this metric across various stages from MVP, scaling up to established businesses.
Do not factor in non-recurring fees, such as setup or hardware (Jordan, J. et al., 2015).

fx

MRR = Σ Recurring Revenue

Practice
Depending on the business, it can be distinguished between different types of recurring revenue, either on an annual or monthly basis. When reporting ARR/MRR it is important to differentiate between bookings and revenue. Revenue signals the amount of cash in the bank whereas bookings show the picture of revenue made in a year. This means the booked revenue equals €1M in 2020 but the ARR for 2020 is actually €1M divided by 3.

BENCHMARK

€100k MRR

*Investors focus primarily on unit economics in series A.

MRR Growth

Theory

MRR growth for SaaS business is easy to track due to its recurring nature (Law, 2016). In order to make an in-depth analysis and to better understand what drives MRR it makes sense to break it down into New MRR, Expansion MRR and Churn MRR (Datarockets, 2019). A stable MRR growth rate is indicating exponential growth, as it needs higher revenues each month to sustain the same level of the previous months (Law, 2016).

Application

fx

$$\text{MRR Growth Rate} = \frac{(MRR_{t} - MRR_{t-1})}{MRR_{t-1}} * 100$$

Additionally, you can analyze your overall + your net new MRR for the individual customer segments (Skok, D., 2019). Then calculate the individual contributions to your MRR. Finally, you can derive the Net New MRR which shows you the additional MRR generated.

- New MRR = Σ revenue from new subscriptions
- Expansion MRR = Σ revenue from subscriptions from up or cross-selling
- Churn MRR = Σ of lost revenue due to canceled subscriptions
- Net New MRR = New MRR + Expansion MRR - Churn MRR (Law, 2016)

Practice

Fintech startups need to focus on MRR, MRR growth, gross payment volumes, unit economics, EBITDA, and net income to indicate monetization and show the way towards profitability.

Especially, for B2B SaaS and Consumer Tech companies in the seed stage it is essential to prove their potential to achieve recurring revenue. An important distinction to make is product and consulting revenue. Product revenue has the potential to scale whereas consulting services are usually one off. So, the background of the achieved growth is important.

BENCHMARK

3x YOY growth for year 1-2

2x YOY growth for year 3-5

Annual Contract Value

Theory

Annual Contract Value (ACV) is the annual revenue per user per contract (Baremetrics).

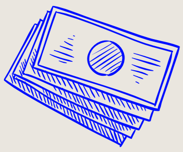
Application

- Customer A has signed a 3 year contract worth $36,000, therefore, the ACV is $12,000
- 100 customers subscribed to a monthly plan and pay $100 per month. Here the ACV is also $12,000 (Baremetrics)

Practice

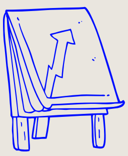
DEEP TECH

An ideal benchmark in the deep tech industry is an ACV of 100k. ACV will gradually improve over time with a higher customer satisfaction. Thus higher ACV volumes can be expected after the second or third year after a contract has been signed with a certain client.



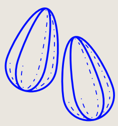
FINTECH

For fintech companies selling to enterprises ACV is essential in the pre-seed phase. They need to show the ability to expand a deal in the distant future by horizontal expansion or upselling. This can be assessed through reference calls with industries to understand their types of usage in practice.



B2B

For B2B seed stage companies at least one customer should have converted and proven the in the pre-seed projected ACV and 2 - 3 customers should be in the pipeline with a clear approach on how to reach them and how to expand the feature set.



SEED STAGE

ACVs should be monitored closely in the seed stage. Meaning, what are the ACVs, how are the contracts structured and who are the buyers for startups in the industry space.

Average Revenue per User

Theory

ARPU gives you the average monthly revenue per customer/ user (Skok, D., 2019). There are two different use cases on how to apply this metric. Firstly, when a later stage is reached, startups often implement additional monetization strategies such as upselling. Secondly, ARPU can be used for experimenting with different users to find the optimal customer (Datarockets, 2019).

Application

- Simply calculate ARPU as stated below
- Monitor it over time for different customer groups (Skok, D., 2019).

$$fx \quad \text{ARPU} = \frac{\text{Total Revenue}}{\text{\# of Users}}$$

Burn Rate

Theory

This metric shows you how much your cash has decreased within a month (Datarockets, 2019). Net burn includes incoming cash minus gross burn, which takes into account all monthly expenses and other outlays (Jordan, J. et al., 2015). Growth burn on the other hand also accounts for marketing expenses for the acquisition of new users (Law, 2016).

Application

$$fx \quad \text{Monthly Cash Burn} = \frac{\text{Yearly Cash Spent}}{12}$$

$$fx \quad \text{Average Burn Rate} = \frac{\Sigma\,\text{Monthly Burn Rate}}{\text{\# of months}}$$

Runway

Theory

When looking at the runway, you can see the number of months until you run out of cash (Datarockets, 2019).

Application

$$fx \quad \text{Runway} = \frac{\text{Total Cash held}}{\text{Average Burn Rate}}$$

Product-Founder Fit vs. Product-Market Fit

Marie-Helene Ametsreiter highlights that founders are often busy and so excited about what they do. Thus they are often falling into the trap of serving individual clients to their last wish and individualization requests. And with that, they completely overlook that they need to prove that this can become a profitable business.

In this PoC phase a founder can’t work for a year on securing and locking in one client at all costs, even if it's a big brand name, if at the end there is a payback period of 10 years for this client.

Be strict and focused, in finding, in that PoC phase the product that you can, sell as a mass market product.

> "Metrics do not exist to impress investors. On the contrary, they're a tool to continuously improve your business."
>
> \- Julia Weinmayr, Author

Marie-Helene points out the importance of focusing on metrics and being aware of the most important KPIs across the different stages. Sometimes early stage ventures hide a little bit behind technology and they are so product-driven and in love with what they do and to solve certain problems - that they completely forget about if this can ever become a business case. Moreover, she highlights having a North Star Metric in place, so the one critical KPI which is important in a certain phase and can range from top line revenue to growth rate or to number of conversions. “Really be spot on in being what is it that defines success in a business is something very often left out, or given too little attention (Marie-Helene Ametsreiter).

Jernej Fuzir, CEO of Blub Blub states that the startup was also revenue driven from day one. However, they also take into account soft KPIs like the number of kids they helped with their app as well as conversions throughout the app. What is interesting in the case for Blub Blub is that user and customer are two different types of persons. The parent is the customer, whereas the user is the child.

So, instead of optimizing the features for the user, the startup also felt the need to optimize for the customer, which meant in their case to include projects on the customer retention side like providing feedback to the parents on the exercises (Fuzir, 2020).

Lukas Fechtig Co-Founder and CEO at zerolens - Pre-seed startups should not care too much about the logo, name of the startup, or some unnecessary stuff on the website. The only thing that matters is creating something that people really want. This can be done by designing experiments that aim to fulfil a need. Normally these experiments can't be nailed 100% without any bias - but can give a general indication within a reasonable timeframe. (Fechtig, 2020).

"I think the best founders that we see from a very early point in time, they make sure they are very much on top of the numbers.”"

Philipp Specht
Principal, Speedinvest

Kicking-off Data-Drivenness Early On

It is vital to understand the behavior of users which is a driver for product development and the overall business. Therefore tracking should start from day zero. The initial steps of getting everything up and running are a bit painful but once that's done it's pretty automated. (Bakker, 2020).

According to Philip Specht setting up and monitoring important metrics is something that should be started early on. Some startups simply postpone this exercise for too long. He thinks that the best founders that they see from a very early point in time, make sure they are very much on top of the numbers.

A tip for startups from the founder of B2C Startup Blub Blub, which is offering a speech learning app, is to not rely on your assumptions but find the tool that you are comfortable with and do a lot of A/B testing (Fuzir, 2020).

Moreover, they were able to predict retention early on. Regarding benchmarks he highlights the importance of asking other startups and colleagues which are in a similar field but not targeting the same market.

Some KPIs or problems might be very similar. Being open to ask for advice or exchange insights can go a long way and can solve a lot of potential issues (Fuzir, 2020).

"Do not jump on all tools which are available on the market when it comes to measuring the performance of the company, but rather go through sales calls with all of them and then choose the one which offers the best customer support because otherwise it is easy to be overwhelmed."

Jernej Fuzir
CEO of Blub Blub

Refurbed, the marketplace for electronic consumer goods, is data-driven from day one. Net revenue margin is their North Star which guides all activities. Their most relevant overall and marketing specific metrics are NPS, defection rates, conversion rates, average order value, CAC, ROAS (for different campaigns), share of wallet (merchant perspective), retention cohorts, repeat purchase rate, CPC (split up by different channels), and further ad platform specific channels:

- Google: impression share, click share
- Facebook: CPM, CTR

An aspect to keep in mind from the very beginning are sample sizes, says Peter Windischhofer, founder of Refurbed. If a certain sample size is not reached it is just random data and should not be relied on to derive fundamental conclusions. A tip for early stage startups would be to create metrics with the sample size in mind. For instance, instead of asking for NPS on a scale from 1-10, they could simply ask whether they were satisfied or not. This means that significance gets higher with less answers (Windischhofer, 2020).

Like most early-stage startups, zerolens has the challenge to set up a lightweight tracking system to gather data while not creating a big legacy system. The main idea is to get the maximum amount of data and insights with a minimum amount of resources needed.

"The first tip is, there is only data drivenness in marketing. Everything else, from early stages to late stages is completely useless."

Peter Windischhofer
Founder of Refurbed

Doing qualitative interviews and asking clients what they like and don't like enables them to get in-depth information (Fechtig, 2020).

Currently, zerolens is tracking their monthly revenue but also product-specific metrics like how many 3D models are available or the quality of their sprint cycles (how long product development cycles should take in comparison to how long they actually take). A piece of general advice for early-stage companies, in the beginning, is that it does not matter if they are 100% right - they need to be at around 80% (Fechtig, 2020).

As for their strategy on nailing PMF, zerolens goal is to fill up their acquisition funnel to enable as many customers as possible to use the product in order to be able to identify and iterate on their ideal customer profiles. Due to only a small sample size making in-depth tests will most likely not yield highly indicative results but need to be supplemented via qualitative data with in-depth customer interviews.

Zerolens ultimate goal is to work with a few select ideal customers at a time to be able to fully explore and understand their true potential.

"In the early days, it makes the most sense to actually talk to people about their challenges. Try to create a questionnaire guideline that eliminates biases and find out the real problem that users are experiencing. That's all that matters"

Lukas Fechtig
Co-Founder and CEO of zerolens

Don't Forget About Retention

On the enterprise side there sometimes is the discussion of whether acquiring a large number of pilots or focusing on a few and on converting them. It's great to focus on as many pilots as possible, but it does not mean anything if they cannot be converted or if an existing account cannot be expanded, by adding more licenses to it, for instance. It's essentially showing that you only a part of the blueprint can be done but not the other (Bakker, 2020).

Grow Sustainably

In B2C founders underestimate the lack of hook and focus too much on the product rather than understanding their customers. So they are trying to build a product that sounds very interesting but have not found a solution on how to acquire customers and make it resonate with them. Another mistake is to underestimate the importance of sustainable growth, which is needed from the get go. Founders tend to rely too much on paid strategies and the acquisition of early adopters. “In consumer fintech the typical mistake is the lack of hook.” (Anthony Danon, 2020).

Specific lending startups often don’t manage the types of risks and they tend to over prioritize growth rather than getting the right customers. In B2B many startups cannot show scalability in terms of their revenues and expected growth because they don’t have a proven way of optimizing sales cycles and acquiring customers. Therefore, showing a way of how ACV can be expanded over time is crucial (Christopher Zemina, 2020).

Blub Blub tracks and optimizes metrics like repayment period of CAC, LTV and CAC. Moreover, the startup is focusing on creating a sustainable business rather than aiming for rapid growth at the moment (Fuzir, 2020).

"Startups often forget about retention, so they are really focused on acquiring users and getting them on the app, but then they might not really focus on keeping them.”

Arnaud Bakker
Principal, Speedinvest

Track & Optimize KPIs

Sometimes companies do not have a detailed overview of their marketing and sales data and do not track KPIs at all. Even though at the early stage there is not a lot of data it makes sense to start implementing a metrics-driven mindset and start tracking KPIs early on which is exactly what successful later stage companies have done.

Regarding benchmarks, Refurbed compares itself with other players in the market, such as Samsung and Apple, and the team aims for achieving a NPS which is higher than the one from the competition (Windischhofer, 2020).

Maintaining a healthy balance between paid and organic acquisition channels is an important issue. While obviously reducing the dependency on Facebook is a challenge, paid channels like this are necessary because they are easily scalable.

But of course it can never be predicted precisely due to many influencing factors such as seasonality, budget, geography, etc.(Fuzir, 2020).

Another tip by the founder of Refurbed is to set up campaigns with the goal of learning and not selling in the beginning, e.g. to test different channels, CTA's, visuals, etc. Also, he mentioned the cost of testing due to the fact that in an A/B test there is always the risk that half of the customers have lower conversion rates than the other half. But it is crucial in order to gain insights and learn.

Another tip is to question everything, test everything and put the subjective opinion completely out of it. Especially when it comes to pictures the personal subjective opinion matters very little: Let data decide which picture has the best conversion rate and which copy has the best CTR for example, but do not interfere with personal subjective views on how to do marketing (Windischhofer, 2020).

"What I realize is that a lot of companies don't have a very granular overview on marketing and sales data (...) So most of them are really high level in terms of what they are tracking and how they are making decisions based on data."

Andreas Schwarzenbrunner
Associate Partner, Speedinvest

Know How to Tell Your Story

Founders need to tell a narrative with their numbers and the most important thing is that numbers back the overall story. For CAC it is important that they are calculated properly, meaning all costs are factured in or what people consider as fully loaded CAC. An example is that if one co-founder does marketing and does not pay himself a salary it does not mean that CAC for this time period is 0 because in the future a marketing manager needs to be hired. Investors look at raw data so inconsistencies would always come up - in the worst case during the due diligence process. Moreover, it's not about having perfect metrics at an early stage because investors know that this will change over time but founders should be able to show a positive trend and a big enough vision (Lang, M., 2020).

Common challenges that have been observed in deep tech companies are the correct distinction between bookings and ARR and the correct distinction between product and services revenue.
The distinction between product and service revenue is especially important to see the level of revenue which is scalable. Marcel van der Heijden explains this with an easy example: "I might sell a product to a company for 50k a year and it might be a 70k consultancy project. That is not a 120k ARR customer that means it is a 50k ARR. (...) Revenue scales. Services revenue does not scale."

Clearly stating which formulas and which assumptions were made are important when working with CAC and LTV (Christopher Zemina, 2020).

Especially CAC is often discussed. It should be broken down into paid and fully loaded because it also shows whether companies can drive traffic organically or only acquire users via paid channels (Bakker, A., 2020).

"Many founders/ investors don't take into account churn rates or work with other simplifications."

Christopher Zemina
Principal, Speedinvest

Conclusion

Metrics are not only a set of numbers but rather a reflection of the vision of a business. It is important to remember that no metric will be perfect but to understand that it is crucial to monitor metrics on an ongoing basis because they help drive what matters most in the business (Golden, J., 2020).

Start with the question of what is important to measure for your business and define a North Star, one metric that matters. In a second step start setting up your monitoring as soon as possible. Ideally on day one!

How should you be able to identify success if you don't know where you started and have no goal on where you are heading? Identifying the right metrics and measuring them consistently gives every business a powerful tool: the ability to reduce complexity and to improve their business based on facts, not gut feeling.

To the right, find a summary of the main insights and tips we got from founders and investment managers when it comes to data-drivennes in startups.

Our Quick Tips

- Leave subjective opinions out of marketing, let data decide
- Focus on Product-Market Fit rather than Product-Founder Fit
- Don't hide stuff
- Do not forget about retention
- Start measuring your performance early on
- Calculate CAC properly and facture all costs in
- Pick metrics according to your target audience and only choose relevant ones
- Keep small sample sizes in mind and the lack of significant information
- When presenting them tell a story of your growth plan. (Where have you been, where are you now, where do you plan to go and how will you get there?)
- In the early phase do not lose focus on your product and remember that it needs to be scalable and served to a broad audience
- Do not overly focus on growth and pure customer acquisition
- Focus on acquiring the right (i.e. profitable) customers

List of Resources

- Ali, T.
  https://www.displayr.com/sample-sizes-for-net-promoter-score-nps/
- Ametsreiter, M., 2020
  Interview
- Bakker, A., 2020
  Interview
- Baremetrics, 2018
  https://baremetrics.com/open-benchmarks
- Butterfield, J., 2019
  https://medium.com/w23-labs/why-you-should-find-your-north-star-before-developing-your-product-a994e8903e89
- Chen, Andrew
  https://andrewchen.co/investor-metrics-deck/https://threadreaderapp.com/thread/1184170125525577728.html
- Danon, A., 2020
  Interview
- Datarockets, 2019
  https://datarockets.com/blog/ultimate-startup-metrics-guide/
- Dopson, E., 2020
  https://databox.com/most-important-b2b-kpis
- Egan, J.
  https://jwegan.com/growth-hacking/27-metrics-pinterests-internal-growth-dashboard/https://jwegan.com/growth-hacking/4-growth-hacker-metrics/
- Fechtig, L., 2020
  Interview
- Fuzir, J., 2020
  Interview
- Genroe
  https://www.genroe.com/net-promoter-score
- Golden, J., 2020
  https://hbr.org/2020/05/dont-let-a-single-metric-drive-your-business

List of Resources

- Griffith, E., 2019
  https://www.nytimes.com/2019/10/08/technology/silicon-valley-startup-profit.html
- Hubspot, 2019
  https://blog.hubspot.com/service/net-promoter-score-benchmarks
- Jin, L., Coolican, D., 2018
  https://a16z.com/2018/12/13/16-metrics-network-effects/
- Jordan, J., et al, 2015
  https://a16z.com/2015/08/21/16-metrics/
- Lang, M., 2020
  Interview
- Law, 2016
  https://medium.com/the-saas-growth-blog/the-ultimate-guide-to-saas-growth-metrics-2a4de6f1779
- Lemkin, J., on Quora, 2020
  https://www.quora.com/What-is-the-average-customer-acquisition-cost-for-a-SaaS-company
- Neilpatel
  https://neilpatel.com/blog/customer-acquisition-cost/
- Reforge
  https://www.reforge.com/blog/north-star-metric-growth
- SaaSPLG.com, 2020
  https://www.saasplg.com/beginners-guide-to-plg
- Samani-Sprunk, T., 2020
  https://blog.simplestrat.com/supercharging-your-saas-business-model-for-hypergrowth
- Schulze, E., 2019
  https://www.cnbc.com/2019/11/08/investors-want-tech-start-ups-to-show-a-path-to-profitability.html
- Schwarzenbrunner, A., 2020
  Interview
- Shafranik, D., 2019
  https://thenextweb.com/podium/2019/12/27/startups-focus-should-shift-from-growth-to-profitability-in-2020
- Skok, D.., 2019
  https://www.forentrepreneurs.com/saas-metrics-2/
  https://www.forentrepreneurs.com/saas-metrics-2-definitions-2/
  https://www.forentrepreneurs.com/startup-killer/

List of Resources

- Specht, P., 2020
  Interview
- Specht, P., 2018
  https://medium.com/speedinvest/why-we-have-created-a-scorecard-317355d1c046
- Van der Heijden, M., 2020
  Interview
- Vouillon, C., 2017
  https://medium.com/point-nine-news/6-saas-metric-frameworks-benchmarks-to-know-before-fundraising-901b4b1c9125
- Windischhofer, P., 2020
  Interview
- Yin, E., 2020
  https://twitter.com/dunkhippo33/status/1252277787617968136
- Zemina, C., 2020
  Interview

List of Abbreviations

AARRR	Acquisition, Activation, Retention, Revenue, Referral
ARR	Annual Recurring Revenue
ACV	Annual Contract Volume
ARPU	Average Revenue Per User
ARR	Annual Recurring Revenue
CAC	Customer Acquisition Costs
CR	Conversion Rate
CRR	Customer Retention Rate
GMV	Gross Merchandise Value
MoE	Margin of Error
MoM	Month over Month
MRR	Monthly Recurring Revenue
MVP	Minimum Viable Product
NLP	Natural Language Processing
PMF	Product-Market Fit
PoC	Proof of Concept
ROI	Return On Investment
SMB	Small and Medium Business
TCV	Total Contract Value
QoQ	Quarter over Quarter
YoY	Year over Year

Imprint

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Author & Editor: Julia Weinmayr
Co-authors: Dieter Rappold, Janine Tricoire, Mitchell Bradley, Julien Bercot
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www.speedinvest-pirates.com, 2020

Julia Weinmayr
Marketer and Data-Driven Strategist, Speedinvest Pirates

is working as Business Analyst at Speedinvest Pirates, the growth unit of one of Europe's biggest early-stage venture capital funds. With her MSc from WU Vienna she has an analytical mind and can jump into any topic quickly, researching thoroughly until the last insight is unearthed - as you can see in this paper.