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A data-driven approach to validate product-market fit with early adopters

Reddal Insights — 14 April 2014
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Finding product-market fit is a prerequisite for any early-stage company to achieve fast-growth. This requires a data-driven approach towards product iteration. In this article, we introduce practical methodologies and tools that we have successfully used to test and achieve product-market fit.

Product-market fit is a term that is generally attributed to Marc Andreessen, an American entrepreneur and investor, after he used the term in his article *The Only Thing That Matters*(2007). In the article, he defines product-market fit as “being in a good market with a product that can satisfy that market.” For clarity and brevity, it could also be rephrased as “being in the right market with the right product”, as a good market does not have to be a traditionally defined good, healthy and growing industry.

Finding product-market fit is a prerequisite for a company’s exponential growth and success in the market. Startups usually relentlessly try to achieve the product-market fit throughout their journey, but also large corporations should pay attention to it to succeed in their chosen markets. Only very few startups manage to actually achieve true product-market fit and become a successful company. The main reason for startups, as well as for corporations, to fail to meet the product-market fit is a lack of understanding of the systematic, data-driven approach which allows strategic pivoting and iteration of products. In this article, we will introduce practical methodologies and tools that we have successfully used to test and achieve product-market fit.

Understanding and measuring the product-market fit

The product-market fit indicates that developing the best product does not necessarily

guarantee the success of the business unless it satisfies a problem or a need that exists in the market, which is considered to be worth enough solving. This is why continuously testing, improving and changing the value proposition of the product is important in achieving the product-market fit.

The first step in testing the value proposition is to make a hypothesis on how to identify the achieved product-market fit in your business. This step requires defining relevant KPIs which quantify the results and facilitate objective validation. The KPIs should indicate how well the value proposition of the product is received by the market. As an example, for online applications the metrics could be conversion rate, retention rate or monthly usage rate, which are usually easily available. For physical products or services that cannot be monitored remotely, relevant metrics are for example sales closing rate, which can be monitored internally, and net promoter score that is often measured through surveys. The logic behind these example metrics is that customers would pay, stay, recommend or use the product more if they feel that the product is really offering value.

A simple example hypothesis for a freemium based mobile application could be: “we will have 5% free-to-paid conversion rate, less than 2% churn rate, and a customer lifetime value of $100 if this product meets the product-market fit.” Defining the actual target level is not easy when introducing something new in the market as there is no past data available. The simplest way of defining the targets is to find a successful product that has similar characteristics with your product and benchmark the targets from that product. Another approach would be to monitor change instead of the value itself and declare that product-market fit is reached for example when the user base or revenues start growing at 50% per year.

Gathering and leveraging data to test product-market fit

After making a hypothesis on what KPIs are relevant to your definition of product market-fit, the data needs to be continuously tracked and analyzed. However, due to the fact that the product is often being tested and iterated at a fast pace, tracking only a linear line of aggregated data cannot really identify what caused which results. Using cohort analysis will help in addressing this issue.

Cohort refers to a group of people who share common characteristics or experiences within a set time span. By analyzing the different cohorts independently, companies can see behavioral patterns of their customers more clearly across the lifecycle of the product. For instance, customers who started using the product in February can be assigned as cohort A while customers who started using the product in March can be assigned as cohort B, assuming that some attribute of the product was changed in the beginning of March. By looking at those two cohorts independently, the company can evaluate the effects of later changes irrespective of the previous ones.

To elaborate this, let’s assume that we have modified our mobile application on February 1st, and we tracked cohort A’s conversion rate, which turned out to be 3%. As our target is 5% conversion rate, we made another modification assuming that this will change how people

react to our product and increase the conversion rate. Now this change was implemented in March 1st and we tracked cohort B's conversion rate, which reached 5%. As cohort A had already used the previous version, they would see the change very differently and might for example be more excited about it and have a conversion rate of 8% in March. Following only the aggregate data would give the impression that the new version is better than it really was.

Tracking cohorts is rather simple when the application or product is by default connected to the Internet or at least downloaded from there, as the data is immediately available and easily filtered. Unfortunately, the tracking gets more difficult with physical products. One way to tackle this is to use online registration of the product, combined for example with a serial number. The registration can be motivated with perks such as free customer care, extra content or supporting applications, which can also collect use data. As an example, a body composition analyzer manufacturer introduced an online service which allowed users to record their results and get relevant feedback regarding their body condition. This tool allowed the company to easily monitor how frequently customers are using the product. Even though only a small percentage would do the registration or use the online services, it can still give an indication of the behavior of the cohort and give a faster way to collect feedback, when done over several cohorts. In cases where online monitoring is in no way feasible, some data can be gathered by focused group interviews and market studies, and some conclusions can also be drawn from sales performance. However, these are very slow and often quite unreliable sources of information.

For online applications, be it the product itself or a supporting application, collecting the data and performing the required analysis can be done easily with analytical tools available on the web. Google Analytics is one of the most prominent tools, which allows in-depth analysis with customized filter and segmentation options. There are also tools such as Flurry, Appannie, and Mobile App Tracking, which have different strengths and weaknesses that support different sets of KPIs.

Acquiring an initial batch of new users in order to generate data

Once the mechanisms to gather data are defined, building a user base of early adopters becomes critical in order to validate the initial product-market fit hypothesis, in the case of both new products and product changes. Developing an awesome product that can attract a steady stream of initial users on the first attempt is challenging and very difficult to achieve. To avoid a big failure by having a big launch, the shortcomings of the product should be identified beforehand. However, this requires users for the product. These users should represent the target segment but the group should still be limited to avoid launching the product too quickly. For physical products this is easier, as geographical segmentation can be used and availability is easily limited, but for online products it can be more difficult.

One of the effective ways to increase the number of users in the first stages of an online or mobile application is to exploit Facebook CPI (cost per installation) advertising. Facebook CPI offers different targeting options which would filter out non-relevant users from the pool. However, Facebook CPI campaigns can be expensive if not implemented properly. One good

tactic is to carry out multiple small A/B tests and iterations of the banner images and texts before going into full-scale campaigns. In our experience, CPI rates can be gotten to as low as 20 to 50 cents per download and this is equal to or less than the cost of using reward-based ad platforms.

In the case of a physical product, even though limiting the target group is easier, acquiring a large volume is more difficult due to limited channels. One good way to acquire relevant users for testing is to discover niche communities where the target customers are gathered and start building the relationship and introduce the product ideas even before the product is ready for launch. Testing the value proposition and marketing the product this way will make it easier to attract and gain the initial batch of interested customers for the first testable versions of the product, even without a dedicated sales channel.

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Product-market fit is crucial for any business, and it requires a data-driven approach and constant testing. Finding product-market fit requires making a hypothesis on what the product market fit means for the offered product or service, setting up and leveraging analytical tools to gather data and validate the product-market fit, and generating an inflow of new users for each new version of the product as soon as possible to generate the data.

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