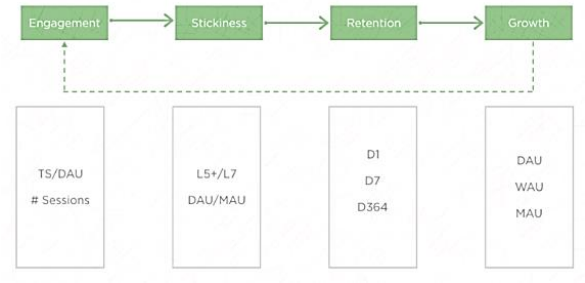
Two-Sided Marketplaces and Engagement

For a product to achieve its full potential and create the most value for its users, it must grow *sustainably* and reach a high level of penetration with respect to the total addressable market.

Retention is the users engage deeply with the product and keep coming back to the product, and it's the measurement of people who tried the product and liked it enough to return.

Stickiness generally drives retention, but a product that is retaining and growing well may not necessarily be sticky. Stickiness helps reduce your dependency on *tactics* such as push notifications. For example, Facebook is sticky because of users' urge to share, and because of their curiosity about other people's lives.



Engagement is key to the success of most products, engaged users return for repeat experiences - driving stronger retention and ultimately helps a product grow in a sustainable way. Ultimately, engagement drives stickiness, which drives retention - and that, in turn, drives growth. Therefore, systematically understanding and improving engagement will increase a product's health.

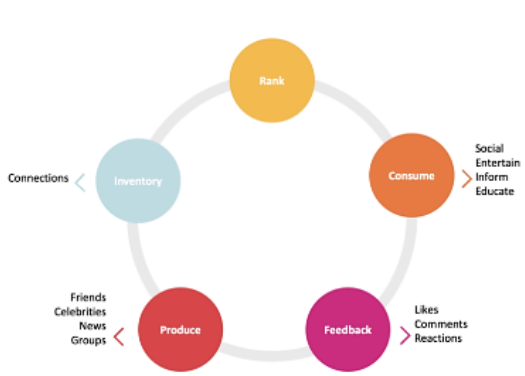
Framework

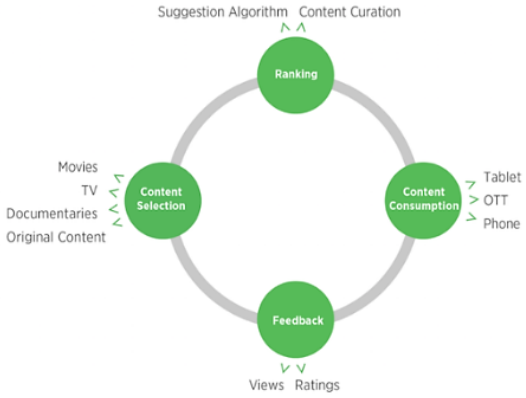
In order to understand engagement across multiple types of consumer-facing products, it would be great to have a common framework. Many consumer technology companies can be thought of as two-sided marketplaces.

These are organizations that create value primarily by enabling direct interactions between two (or more) distinct types of affiliated customers. eBay (seller and buyer), Uber (driver and rider), Facebook (content producer and content consumer), can all be considered as two-sided marketplaces. These platforms exist because there is a need for an *intermediary* to match the supply and demand sides of the platform in a more efficient way. This intermediary will make possible exchanges that would not occur without them and create value for both sides.

While some strategies for generating engagement apply across multiple types of products, others are specific to certain types. For example, products that offer user-generated content (UGC) may benefit from different strategies and levers to affect engagement, compared to products that offer professionally generated content (PGC). These two types are discussed and contrasted in more detail below. Regardless of type, the health of most consumer products is driven by the ***production-consumption loop***, which allows you to surface the right content to users and drive engagement.

See the two figures below that *depicts* the scenarios for Facebook and Netflix.





Network Effects

A network effect is where an additional user of a good or service increases the value of that product to others. When a network effect is present, *the value of a product or service (generally) increases according to the number of others using it*. The classic example is the telephone, where a greater number of users increases the value to each. This is also true with product like Facebook or Snapchat where people are producing content on one side and consuming content on the other side.

With greater number of users, there are more people that you can connect with and there is a greater likelihood of you to be engaged and retained. So, in general, there is a positive network effect in the case of WhatsApp, Facebook Messenger, Instagram and Snapchat.

In the case of Facebook, as the number of users increase, on one hand, when users provide feedback on the content they consume, that feedback influences ranking algorithms and can drive additional engagement.

On the other hand, in a *News Feed model*, everyone can see explicit feedback which increases *comparative pressure*, which would discourage people to share more. So, this would create a negative network effect. I.e., as the number of users increases, the amount of content produced can drop which would eventually lead to lower engagement.

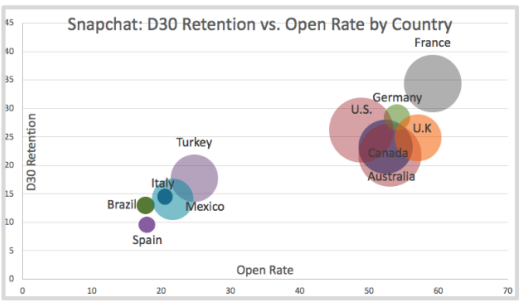
In contrast, a product like Snapchat, which uses a *story model*, makes that feedback visible only to the producer. The story model can thus reduce comparative pressure and, by extension, encourage users to post more.

In the case of a PGC product like Netflix, the network effect is more indirect. As there are more users, more original content gets produced; more content gets acquired and more inventory is available for all. As there is more content available, more users join the service.

Penetration

The percentage of the target market that are active users of the product is known as product penetration. In the case of social products, the target population is the country's population over 12. Penetration of a country has a strong impact on engagement in products where there are direct network effects,

Figure below shows Snapchat's retention vs. engagement and demonstrates a common trend among social apps: countries in which user penetration (represented by bubble size) is higher also tend to see much higher engagement, which in turn increases retention. Because a user in a high-penetration country tends to have more connections, they see many Snaps and stories every time they open the app, and that high inventory gives the user reason to return to Snapchat consistently. Thus, high user engagement drives long-term retention and product growth.



In contrast, products that do not have direct network effects are weakly impacted. This is largely because *economy of scale* takes time to develop which ultimately drives greater engagement.

Content Production and Sharing

In social apps like Snapchat, there are three phases of content production — creation, capture and sharing — and four primary kinds of creators: friends, groups, pages, and news. As combined monthly active users for apps such as Snapchat, Instagram and Facebook have climbed to exceed 3.5 billion, social networks are seeing increases in creation and capture of UGC, and relatively high engagement levels follow.

Content creation is the engine that drives engagement for social apps. In the example of Snapchat, a useful metric is the number of Snaps a day. The most active Snapchat users sent around 150 snaps a day, while the average user sent 20–50 snaps a day. Sharing content is incredibly important for continued growth and engagement, but several factors impact sharing, including *permanence* of the content, size of a creator's audience, the perceived quality of other people's posts in a creator's feed etc.

In contrast, in the case of Netflix (or in general, professional content), none of the factors mentioned above matters for increased content production or engagement.

Connections, Ranking, and Recommendation

In the case of a product like Facebook, once a larger number of posts are being generated, it's important to make the best connections between a user and other users or entities, given that user's available inventory. *The more connections a given user has, the more inventory with which they can engage*. As inventory is gated in these types of systems, "needy" users that have a low content inventory, generally have low engagement. Snapchat, for example, emphasizes the need for users to make connections early. Because 88 percent of Snaps are sent to just one other person, these connections are critical to building content inventory. Without connections, content created will not be viewed, nor will it receive feedback, which will ultimately discourage a user to continue creating content. *Ranking the content in the right order is also very important for higher engagement.*

In contrast, all the inventory is equally available to users in products like Netflix. Thus, *show the right recommendations in the right order and having a great search product that can infer the intent of the query is very important.*

Given key signals, a machine learning model can determine with some degree of confidence whether a user will interact more with, for example, an article about the

musician Shawn Mendes or one about an upcoming election. However, such signals are only a rough proxy for a user's true feelings, and blindly following some signals can lead you to optimize for *virality* over quality. All optimization functions have limitations — data will never completely model a person. Therefore, product teams should always fully understand the recommendations such systems make and ensure those recommendations comport with the broader goals of the team and company.

Supply, Demand, Liquidity, and Other Implications

There are two sides to a marketplace - demand side and supply side.

When a home is listed on Airbnb, it creates supply. When you are traveling to Hawaii looking for a home to rent, it creates demand for the home.

From a product perspective, early on in a product's lifecycle, *seeding the right supply on a two-sided market requires an act of magic.* It requires convincing the best supply possible that you will soon have demand and that the initial time-cost of the sign-up and onboarding process will be well worth it. Then within this tiny window when you have both interest and mindshare of quality supply, you need to convince some customers to engage. This is very hard and one of the main reasons why most marketplaces fail.

Having a unique supply creates a competitive moat.

For example, the content shared by your closest friend on Facebook cannot be found anywhere else. So, this piece of high-quality content is very valuable. In contrast, when you are searching for a hotel room which is available across multiple travel websites (commodity supply), the most important criteria for the demand side is generally pricing, and due to competitive pressure, margins are generally reduced.

Building brand and loyalty are some ways to overcome this pressure. Incentivizing the production of unique high-quality supply, creating a great brand and loyalty are very important considerations in building a strong two-sided marketplace.

To measure the health of the marketplace, a product owner needs to deeply understand the liquidity in the marketplace. (Time Sensitive)

Inventory, utilization, sell-through-rates, and demand and supply constraints at a granular level will help identify where the opportunities lie and help drive roadmap and strategy for the products.

For example, in the case of 'needy users' (those with low inventory in UGC products) supply is low, and a potential product lever is to increase this user's supply by inducing them to add connections, thereby increasing their engagement.

The two sides of demand and supply need to be incentivized to use the platform to create strong network effects.

As an example, a two-sided cleaning service marketplace that connects a cleaner to a home will work the first time. But over a period of time, once the cleaner has made enough connections, they are unlikely to use the platform. The platform needs to create unique and recurring value to both parties to retain them on the system.

Similarly, competition, user behavior, and other extrinsic considerations may shift the levels of supply and demand — the presence of WhatsApp, Instagram and Snapchat have definitely changed the **value proposition** of Facebook and the core product is used differently now than it was before. It is critical to understand the value proposition on both the supply and demand sides and how that evolves over time. This should inform future product roadmap and strategy.

Takeaways

Two-sided marketplace is a good framework for understanding the engagement of consumer-facing internet products.
Surfacing relevant content via feed ranking or suggested content is a key driver of engagement in any consumer system.