Finance And Investing

Subscription Businesses Are Booming. Here's How to Value Them

by Daniel McCarthy and Peter Fader

December 19, 2017

Philippe Marion/Getty Images

Summary. Subscription business models have become more popular than ever. How can investors accurately assess the true underlying financial valuation of these businesses? And what metrics should company executives use to manage these subscription businesses... more

The subscription business model is booming. Previously dominated by the likes of newspapers, magazines, gyms, utilities, and telecommunications firms, more products and services are being offered to more people through subscriptions than ever before. Business-to-consumer subscription businesses have attracted more than 11 million U.S. subscribers in 2017, and the industry as a whole has been growing at 200% annually since 2011. There are over two thousand consumer-focused subscription businesses capitalizing upon customers' diverse tastes. While many companies are selling more traditional products – such as food (Blue Apron and HelloFresh), grooming products (Dollar Shave Club and Harry's), beauty supplies (Birchbox and Ipsy), and clothes (Stitch Fix and Trunk Club) – there are hundreds of companies with more unorthodox products catering to the “long tail” of consumer tastes, including Harry Potter toys, survivalist products, and moss.

While the industry is growing rapidly, it is also highly volatile. Approximately 13% of subscription businesses tracked by the subscription-related website My Subscription Addiction have failed, and many more have seen sharp reversals of fortune. For example, Blue Apron rose to become the largest meal kit delivery business in the U.S., went public in June, then saw its stock price fall 70%, making it the worst performing IPO of a major company so far in 2017. Indeed, some analysts have gone a step further, declaring that subscription boxes are in the midst of a venture capital-fueled bubble not unlike the flash-sale business craze that ended five years ago. They argue that the market has become saturated because of the barriers to entry are low (do we really need 53 subscription box companies offering sex products?), the total market size for most of these businesses is small, consumers’ embrace of them is faddish, and many of companies are sustaining large losses trying to grow their way into profitability when the business model is inherently difficult to scale.

These concerns raise the following questions: how can investors – whether venture capital and private equity firms, or public-market investors – accurately assess the true underlying financial valuation of these businesses? Likewise, what is the right set of metrics that company executives should use to manage their subscription businesses in order to hold themselves fully accountable to their stakeholders? A new methodology, which we call customer-based corporate valuation (CBCV), holds the answer to both of these – and other similarly critical – questions.

Moving from “top-down” valuation to “bottom-up”

The default valuation method for finance professionals is "top-down" in nature. For example, they may create revenue forecasts that use inputs such as macroeconomic trends for key demographic segments. The difficulty with this approach is that it is notoriously hard to accurately make such estimates, and more importantly, they pay little attention to the health and composition of the company's customer base.

CBCV takes a "bottom-up" approach to corporate valuation instead, by explicitly recognizing that every dollar of revenue that a company generates must come from a customer – and that not all customers are "created equal." It is specifically suited for subscription businesses, driving revenue off of the flow of incoming customers over time, their retention patterns as they stay with (or abandon) their subscriptions, and the average revenue per customer (ARPU). This decomposition reflects the simple accounting logic that the number of customers at the end of any period must be equal to the number of new customers acquired during the period plus the number of customers who were with the firm at the start of the period who remained with the firm by the end of it.

To estimate the number of existing customers who remain with the firm at the end of each quarter, analysts must infer differences in tenure across the customer base (i.e., how many existing customers were acquired very recently, how many are "die-hard loyalists" who have been with the firm for 10+ years, etc.), and what the drop-off rate is for customers within each of these tenure vintages. This is a relatively simple exercise when analysts have access to rich enough data (say, a firm's transaction log) – in such a case, we can directly observe how old each and every customer was, and there are time-tested models traditionally employed by actuaries to predict drop-off patterns by tenure across customer cohorts. But analysts don't have this kind of rich data when they are studying a publicly traded company, because such companies only disclose highly aggregated data in company filings and investor presentations (e.g., the absolute size of the customer base and the number of customers acquired each quarter).

In a paper recently published in the *Journal of Marketing*, we show that using some clever statistical methodology, we can predict these drop-off patterns almost as well with highly aggregated data as we could with rich, granular data. The key insight driving the methodology is a relatively simple one: knowing what we do about customer behavior at a granular level gives us insight into what we would expect to see at an aggregate level. But in this case we approach the data from the opposite direction: starting with the aggregate drop-off pattern (from the firm's public disclosures), we infer the set of individual-level behavioral patterns that best conform to it. Then we project those granular patterns forward as if we had such data in the first place. We apply the methodology to two public companies, DISH Network and Sirius XM Satellite Radio, to show that the methodology has excellent performance in practice.

This methodology is more accurate and more diagnostic than traditional financial valuation methods because it introduces key value drivers to the financial model. It is very important to know whether sales growth is being driven by the acquisition of new customers or the monetization of existing customers, because the former tends to require more upfront expense. Likewise, customer retention strongly influences the stability of revenues, because it dictates whether cash flows from new customers are like annuities that pay into perpetuity or upfront one-shot payments that must be replaced in the next period to avoid losing ground.

Case Study: Blue Apron

Having established our customer-driven valuation framework, we then set our sights on one of the former darlings of the subscription boom: Blue Apron, the meal-kit delivery business that we mentioned at the beginning of this article.

Blue Apron formally stated their intention to become a public company in early June of 2017. The majority of the disclosures they provided at the time were standard top-down metrics (e.g., that aggregate sales in the U.S. grocery market were almost $800 billion, only 1.2% of these sales were made online, and the annual growth rate of online grocery sales are expected to be 8.5%). Their revenues grew by over 100% in 2016. The 30,000-foot-view looked pretty good.

While Blue Apron had disclosed no information about customer retention in their filings, we created an extended version of the model from our journal article which could incorporate the eclectic customer disclosures they did provide, allowing us to generate the same managerial inferences as before.

Our bottom-up view was markedly less optimistic than the top-down story that the company's management team had painted. For instance, we estimated that around 70% of Blue Apron's subscribers churn out after six months, the cost to acquire new customers (CAC) is rising rapidly, and loyal customers are spending less, not more, than new customers. Revenues were indeed growing rapidly, but only because Blue Apron's marketing spend was growing even more rapidly. Marketing spend and CAC were particularly high in the twelve months prior to their IPO, creating the impression that they might have been trying to impress Wall Street with strong sales growth even if this meant acquiring many low or even negative CLV customers in the process.

Our analyses suggested that Blue Apron was on a “customer acquisition treadmill” that would be difficult to get off, because any pullback in marketing spending would cause sales to drop in tandem. These customer-driven issues were picked up by numerous major news outlets, including the Wall Street Journal, Fortune, and Barron’s, and materialized shortly after the company went public. The company tapped the brakes on marketing spend so that it could focus on operational issues associated with the opening of a new facility, and – sure enough – its customer count plummeted in turn. In other words, Blue Apron fell off of the acquisitions treadmill, prompting investors to reconsider whether they should pay a high-growth valuation multiple for a company whose sales were now falling year-on-year.

There is a silver lining to this story. Blue Apron has not been sitting idle – they have acknowledged their customer retention issues and have been taking a number of steps recently to mitigate customer churn, including offering subscribers more meal options, an unlimited number of meal configurations, and flexibility with the number of meals customers can order each week. This is a step in the right direction if the resulting reduction in churn more than offsets the increased costs and decreased average revenue per user these tactics may entail. Furthermore, the investing public is warming up to other meal kit delivery businesses that have done an excellent job of retaining and monetizing their customers. Gobble, for example, has received a number of favorable media mentions and a large Series B financing recently in large part because it sports a six-month dollar retention rate estimated to be more than 40% higher than Blue Apron’s. Gobble should be, and has been, rewarded for outperformance in terms of a metric that matters.

CBCV provides investors a more accurate way of analyzing and valuing subscription businesses, making it easier for those businesses’ management teams to focus on what matters most – creating durable, long-term value through customer acquisition, retention, and development – and to worry less about surface-level metrics like sales growth in a vacuum. Indeed, "growth at all costs" can destroy value as it did at Blue Apron, and we strongly suspect many other subscription businesses are pursuing the same strategy currently. An industry-wide pivot towards customer value-oriented business strategies may be the key to proving the skeptics wrong and keeping the subscription business industry booming.

Read more on **Finance and investing**

DM

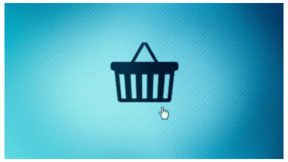
Daniel McCarthy is an assistant professor of marketing at Emory University's Goizueta Business School and a cofounder of Theta Equity Partners, a customer-based corporate valuation solutions provider.

PF

Peter Fader is the Frances and Pei-Yuan Chia Professor of Marketing at the Wharton School of the University of Pennsylvania, a coauthor of *The Customer Centricity Playbook*, and a cofounder of Theta Equity Partners.

Tweet Post Share Save Buy Copies Print

Recommended For You



3 Reasons Subscription Services Fail

Subscription Business Models Are Great for Some

How to Value a Company by Analyzing Its Customers

HBR IDEACAST

AUDIO

Businesses and Terrible for Others

Every Business Can Be a Subscription Business