

# Cambridge Summer Institute 2018

## Business Model Development David Robinson

### Contact

robinson@haas.berkeley.edu

<http://faculty.haas.berkeley.edu/robinson/>

### Overview

This short course will introduce you to Business Model Development, an approach to New Product Development that explores the many different ways you can organize a company. For each concept we will apply what we've learned to current company situations.

### Learning Objectives Business Model Development

On completion you will be able to use a simple, robust model called the Business Model Canvas, for developing and analyzing new business proposals whether as part of entrepreneurial ventures or new lines of business within existing firms. You will learn:

1. The centrality of the Value Proposition and different types of value
2. Selecting target customer segments and different levels of customer engagement
3. The many different possible models of revenue generation
4. How to analyze a cost structure
5. The options for price setting for new ventures
6. How to build a business with partners and channel members
7. How to critically evaluate competing business models

### Work Plan

Monday, Lecture 1: New Product Development; Hotel keys; Smartphone on a chip

Monday, Lecture 2: Business Model Canvas;

The Value Proposition

Tuesday, Part 1, Case: Homejoy and the Value Proposition

Tuesday, Lecture 3: Cost structure; Case: Spoonrocket

Partners; Tesla Panasonic

Wednesday Lecture 4: Customer relations;

Levels of customer engagement, Citi Bus

Wednesday Part 2: Revenue streams;

Comprehensive case: Alexa Skills

Thursday: Firm visits in London

Friday: Exam



## Smartphones to Open Doors at Some Hotels

### *Starwood to Begin Test of Virtual Keys Stored in Apps*

Excerpted from article By Craig Karmin © Wall Street Journal Jan. 26, 2014 In-class handout

Guests arriving at the Aloft Hotel in Manhattan or one in Silicon Valley will soon be able to do something hotels have dreamed about offering for years: **walk past the check-in desk and enter their rooms by using a smartphone as a room key.**

Guests at these properties will receive a message on a Starwood app containing a virtual key, which will unlock the door with a tap or twist of their phone through the use of **Bluetooth technology**. The company says the iPhone 4s or newer models and the Android phones running 4.3 or newer will be compatible.

Starwood officials are hoping this will be one of the biggest technological changes in the industry since free Wi-Fi. "We believe this will become the new standard for how people will want to enter a hotel," says Frits van Paasschen, Starwood's CEO. "It may be a novelty at first, but we think it will become table stakes for managing a hotel."

Not everyone is so sure. **Past attempts to use technology to streamline the check-in process have had mixed results.** Many hotel operators have been searching for ways to eliminate the bottlenecks that can form at a hotel's front desk. The delays are the bane of many a road warrior's travel experience.

"Everybody has to check in, but we are all doing it pretty much the same way we were 100 years ago," says Christopher Nassetta, chief executive officer for Hilton Worldwide Holdings "It's something we are seriously addressing."

Yet it is still not clear that virtual keys will do better than previous attempts to circumvent traditional check-ins. An effort several years ago to allow guests to enter rooms with the magnetic strip on their credit cards never caught on. Guests worried about security and were reluctant to give their kids credit cards instead of room keys.

Starwood officials say they developed the precursor to the mobile-phone key in 2010, when the company created a keycard for its loyalty-club members, whose credit-card and other personal information was already on file with Starwood. The keycards have been used at select Aloft hotels in the U.S. The card is mailed to a guest and is activated on check-in day once the room is ready. That same card could be reactivated as a room key for any

A Starwood spokeswoman said that the locks are all battery operated, so they wouldn't be affected if the hotel's computer systems went down. The locks wouldn't work if the battery dies, but hotel staff gets an alert when the batteries are low

Assignment:

1. Come up with as many different ways as possible to get hotel guests into their rooms without waiting in line at the check-in desk to get a key.
-

## Smartphone on a Chip

### *In-class Exercise*



As you probably know, the cameras on your smartphone are now highly integrated into a single component (lens, processor, chip, etc.).

Imagine a future in which the **whole of a cellphone function** is readily available as a single component. What uses can you imagine for this “Smartphone on a chip?”

## In-class Exercise: Homejoy and the Value Proposition

The July 2015 collapse of Homejoy may be remembered as the start of a correction to the high valuations of app-enabled companies. In this article, the author notes that Homejoy **expanded too fast** and had problems with **employee/contractor status**. While these are true, I think the fundamental **Value Proposition** hadn't been properly thought through.

Homejoy was a 2-sided business: Not only did it have to provide services to householders (renters and homeowners), it also had to give a reason for cleaners to sign up for the firm, rather than working independently.

What is the Value Proposition for Householders who used Homejoy (*hint*: it's much more than just "a clean apartment") and for the Cleaners who worked through Homejoy (*hint*: it's not just "more work")? Begin by thinking through how home cleaning works without Homejoy.



### **What Really Killed Homejoy? It Couldn't Hold on to Its Customers**

By Ellen Huet, ©  
Forbes 23 July 2015

Homejoy cofounders and siblings Adora and Aaron Cheung. (Courtesy Homejoy)

### **Pushing For Growth In The Wrong Places**

Homejoy faced pressures dreadfully familiar to many successful young startups: Raising a huge round (in this case, \$38 million in 2013) comes with investor expectations of equally huge growth. To meet those expectations, Homejoy

expanded quickly — too quickly, former employees said — into new and international markets, at one point opening in 30 cities in six months.

Cheung “was always telling the growth story ... because we need to have this story to raise the next round of capital,” said the same former employee. “She really felt that if the company stopped growing really, really fast we’d be dead.”

Homejoy paid dearly for its growth. When it entered new markets, it grabbed new customers on deal sites like Groupon and LivingSocial or by offering discounts on its own site. It leaned on these sources, with about 75% of its bookings coming from discounts as opposed to referrals or organic traffic, former employees said.

Not only did that kind of discounting make Homejoy lose significant money, it also brought in the wrong kind of customer. Many never booked again because they weren’t willing or able to pay the full price, which ranged from \$25 to \$35 an hour. Homejoy changed its pricing last year to make recurring cleanings cheaper and encourage repeat business. In response, some customers simply booked at the cheaper price and cancelled future appointments.

“There’s an adverse selection to high discount — it’s maybe not sending the right message,” said Benedikt Franke, cofounder of Helping, a German company similar to Homejoy. (It goes without saying, but Franke, like Handy’s Hanrahan, has an interest in highlighting that his company differs from Homejoy and will not suffer the same fate). “It’s very easy to give away free T-shirts, but you still don’t have a fashion brand.”

Homejoy’s infamously steep \$19 deal only lasted a few months last summer. But overall, the company struggled to predict a customer’s likelihood of sticking around and often paid more to acquire a customer than they would ever reap in revenue from them, former employees said. As key metrics flagged, so did workplace morale. Employees knew the company was fundraising but couldn’t see how the next round wouldn’t be a down round given that its numbers had been dropping.

“Looking back, it’s like, that didn’t make sense — if your core business doesn’t work here, why expand in new markets?” said another former employee. “I think they were sort of fooling themselves with this exciting top-line growth, and they had cash in the bank so it wasn’t really a concern, immediately, getting to profitability.” But, he added, “it was fun to have that hockey-stick growth. It’s

hard not to get caught up in that. As a startup, you know your task isn't to make money — it's to get new users, and it's easy to grow in new markets.”



As independent contractors, Homejoy's cleaners couldn't be trained — which led to spotty service quality and poor customer retention. (Courtesy Homejoy)

## The Training Dilemma

But it wasn't just deal-sites customers that didn't stick around. Customers that came directly to the site also left, largely because cleaning quality was hit-or-miss. And because Homejoy's cleaners were independent contractors, the company was barred from giving them even basic training on how to clean a house, even if the workers had never cleaned professionally before.

That legal limit “affected our ability to put together a strong product, since we couldn't train or equip our cleaners, which in turn led to average customer experiences and low customer retention,” said former operations manager Anton Zietsman. And cleaning houses is a more subjective and sensitive service than driving someone across town, meaning one bad experience could lose a customer forever.

In that sense, it's not the four existing misclassification lawsuits that made the company shut down. It's the deeper problem behind the lawsuits: Companies on this business model who want to sell a consistent product have their hands tied. If they over-train their workers, they might get sued. If they don't, their product will suffer — and so will their business, maybe fatally.

Homejoy knew about this problem and was trying to find a way to fix it. The company ran an experiment in Chicago where it trained some cleaners to do things like leave a Homejoy-branded fold on the bed, arrange the pillows in a particular way and leave a card and small goodies in the house. That clearly

crossed the line of an independent contractor's job freedom, but it "helped a ton" with qualitative feedback and customer retention, said one former employee. It's hard to see how that experiment could have been expanded nationwide, however, without prompting more lawsuits or requiring housecleaners to be employees, not contractors.

Homejoy also kept a significant part of the cleaning fee as commission — sometimes close to half, depending on certain cleaning bonuses. The higher the commission, the higher the incentive for cleaners and customers to strike a better deal directly with each other. Homejoy tried to track the size of the problem but had a hard time since it happened outside of their control.

"Maybe our retention was a lot better, but it was retention off the platform," cracked one former employee.

Some deep-pocketed companies like Uber and Lyft are fighting their misclassification lawsuits, while others like Shyp and Instacart have opted to pay up instead by shifting contractors to part-time employees in order to train them more. What's clear from Homejoy is that leaving your contractors untrained could keep you on the safe side of the law, but you might be left with a spotty product that kills your company anyway.

"This is a problem I anticipate many more service platforms will face in the next 12 to 24 months," Zietsman said. As *Fusion's* Kevin Roose pointed out, many similar contractor-based companies that raised big rounds of capital will soon be coming up to the same point as Homejoy, where money is running out and investors start to expect a path to profitability. They'll either need to figure out a way to ensure quality and repeat customers or risk being squeezed out by Amazon and Google, which are starting their own home services arms — and never have to make a profit to survive. ❖



# Spoonrocket Crashes to Earth

David Robinson © 2018



As hungry graduate engineering students at UC Berkeley, Steven Hsaio and Anson Tsui knew what students wanted: Good Food Fast. Instead of going off to hi-tech jobs, they founded a startup, Spoonrocket, which was enormously popular with students. They promised a meal “Under \$10 in under 10 minutes.”

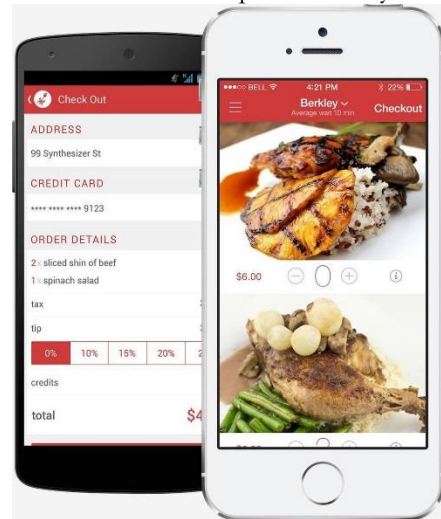
To achieve this, they had a limited menu selection of just 2 or 3 entrées each night, usually including one vegetarian option. Rather than producing the food on demand, they estimated the evening’s sales and produced a large batch of the dinners in a central kitchen. These were kept warm in “hot boxes” which were in the back of autos driven by contract workers. (An early experiment with company-owned cars was abandoned in favor of using workers in the “gig economy” with flexible shifts and no requirement to work on particular days and no guarantee of available work.) The

drivers patrolled a limited area close to where orders were concentrated. From time to time they would return to the central kitchen if they needed to reload one or other entrée.

Beginning in 2013, Spoonrocket attracted initial funding from Y Combinator, an early-stage venture capital fund, and with later investments had funding totaling \$13.5 million dollars. By 2015 it was reporting estimated annual revenue at the *rate* of \$8 million per year<sup>1</sup> (that is, it had not yet sold \$8 million of food in the 2015 year).

Spoonrocket initially served the hungry students of the Berkeley campus. It expanded to San Francisco with an additional kitchen and had failed launches in San Diego and Seattle (they opened and shut down a few months later.)

In March, 2016, the firm abruptly announced it was ceasing operations and filing for bankruptcy. The company’s logistics software was eventually purchased by a Brazilian firm, iFood<sup>2</sup>.



## Assignment

Identify all the costs for Spoonrocket, identifying Variable Costs (more meals sold, more expense), Project Fixed Costs (1-time expenses) and Period Fixed Costs (costs that would be the same each month, no matter how many meals were sold.) ❖

<sup>1</sup> “How Spoonrocket blew \$13 million,” Inc, Magazine, 5 April 2016, <https://www.inc.com/kenny-kline/how-spoonrocket-blew-135-million-and-ended-in-bankruptcy.html> accessed 26 May 2018

<sup>2</sup> “Spoonrocket finds a home,” Megan Rose Dickey, *Tech Crunch*, 16 March 2017, <https://techcrunch.com/2016/03/16/spoonrocket-finds-a-home-with-brazil-based-ifood> accessed 26 May 2018



# Panasonic aims to move Tesla auto partnership beyond batteries: CEO

Makiko Yamazaki and Yoshiyasu Shida © Reuters 19 January 2017<sup>3</sup>

Panasonic Corp aims to extend its partnership with electric car maker Tesla Motors Inc beyond batteries and into self-driving technology, as the Japanese conglomerate continues to shift its focus to the automotive business.

The electronics maker has placed automotive applications at the center of a growth strategy that targets corporate clients at the expense of low-margin consumer goods, where low-cost Asian rivals have diminished the dominance of Japanese firms.

Panasonic is the exclusive supplier of batteries for Tesla's Model S, Model X and upcoming mass market Model 3, and plans to contribute \$1.6 billion to Tesla's \$5 billion battery factory.

"We are deeply interested in Tesla's self-driving system," Chief Executive Officer Kazuhiro Tsuga said in an interview on Thursday. "We are hoping to expand our collaboration by jointly developing devices for that, such as sensors."

One candidate would be so-called organic photoconductive film CMOS image sensors currently under development at Panasonic, which enable high-speed sensing of moving objects without distortion, Tsuga said.

Panasonic aims to add such technology to an automotive business that also includes cockpit displays and navigation systems. It targets annual sales of 2 trillion yen (\$17.43 billion) for that business in the year through March 2019, from 1.3 trillion yen in the year ended March 2016.

As well as automotive, Panasonic and Tesla work together in solar energy. The Japanese firm last month said it plans to invest more than 30 billion yen in a Tesla factory making photovoltaic (PV) cells and modules. ❖

Questions:

1. What does Tesla get out of the partnership with Panasonic?
2. Why did Panasonic make a strategic partnership with Tesla?

---

<sup>3</sup> <http://www.reuters.com/article/us-panasonic-tesla-idUSKBN1530UC> Accessed 4/25/2017



# Alexa! Finish my Calculus Homework

David Robinson © 2018

Amazon, the US online retail firm, has successfully launched a product line of so-called “smart speakers”, named Echo, Echo Tap and Echo Dot. The largest two (Echo and Tap) have remarkably good sound and all of the series require a WiFi connection to be functional. They also connect with other nearby devices using Bluetooth. Internet rival Google has developed a competing system called “Google Home.”



Image Source: Quora  
Amazon Dot, Echo and Tap showing relative size

The Amazon Smart Speakers contain multiple microphones and work with a sophisticated voice-recognition system that does not need to be programmed or trained for individual speakers. A user can wake up the smart speaker’s Internet functions by beginning an instruction with the wake up word: “Alexa!” The user can then ask the speaker to begin to stream a particular Internet radio station, or to search for a song in the user’s library. The system can provide information, such as: “Alexa! What’s the high temperature going to be today?” and a user can ask Alexa to set a timer, an alarm or a reminder.

While Amazon wants to earn money from selling the Echo devices, its primary goal is to make money when smart speaker owners use Alexa to order goods from Amazon. The expectation of this business model is that consumers will happily rely on Amazon to ship them repeat purchases that don’t need a new search, such as: “Alexa, order me dog food.”

Alexa can work with services from other companies such as “Alexa! Call me an Uber to arrive at 1 o’clock.” This is a feature of Alexa called “skills” and the owner has to pair the relevant App to his Amazon account. No doubt Amazon intends to collect a commission from the skill-related pairings.

## Assignment

Working with your group, come up with an Echo “Skill” service that you will market and sell through Amazon, but will make money by providing a service at less cost than you charge. Assume that Amazon takes a 20 percent royalty. Think about your cost structure, whether you have different price points for different services and what your production process will be. *Hint:* Remember that not all consumers are 20 year-old Berkeley students – think about the opportunities for pregnant mothers and the elderly. [*Note:* Having a service complete your homework is of course a violation of academic integrity and the title of this exercise is facetious.] ❖