MIS 3534 Fall 2016 – Strategic Management of Information Technology

Week 12 – IT-Driven Competitive Strategies (II)
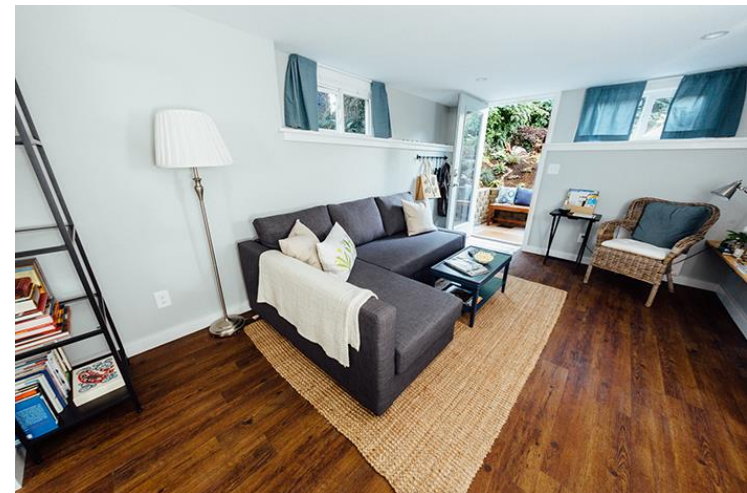
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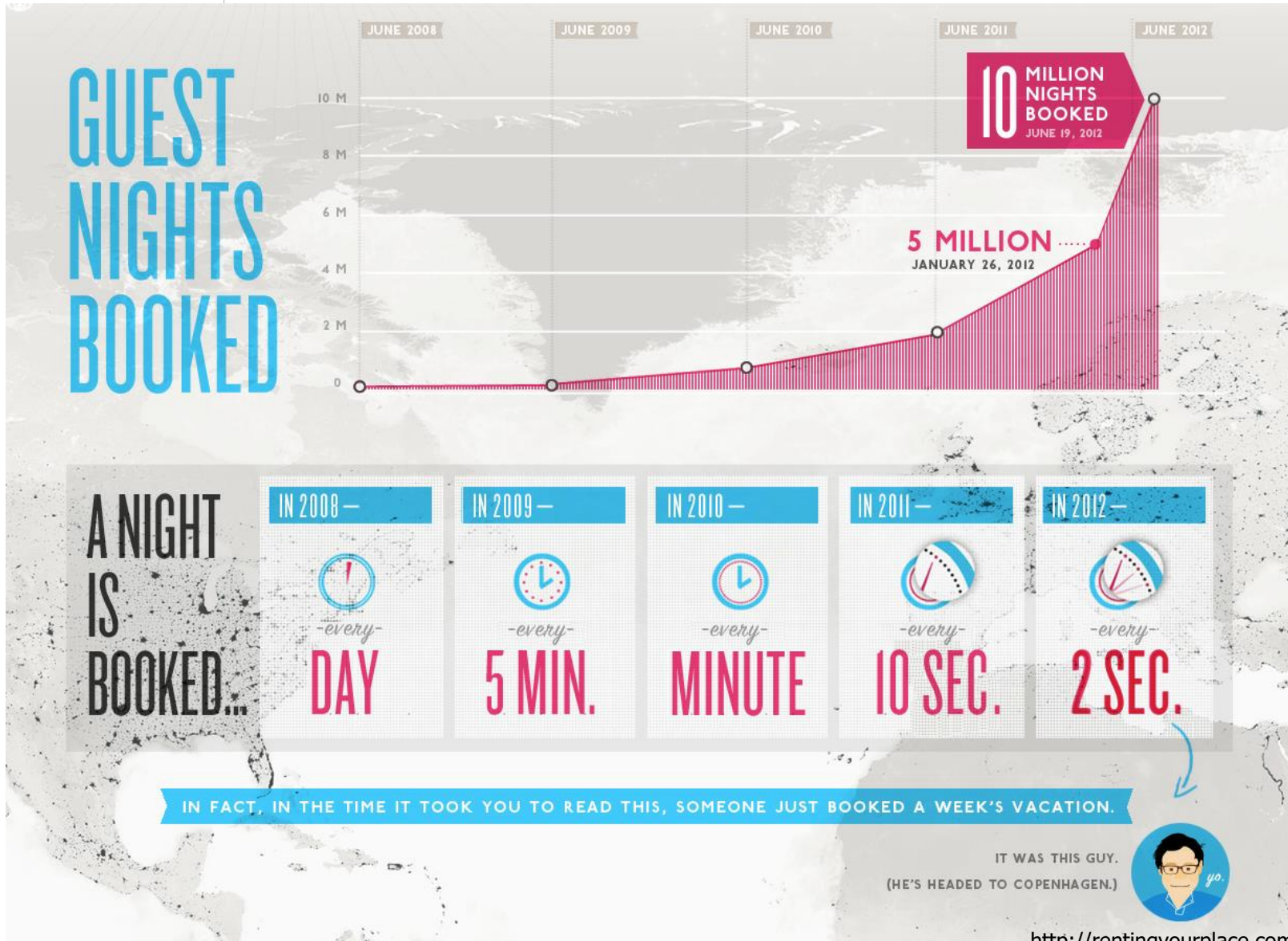*Nov. 28th, 2016*

Fox School of Business
TEMPLE UNIVERSITY

Anyone has ever used Airbnb?

- Anyone who has found an apartment to stay at Airbnb?

- Anyone who has rented your apartment to a guest at Airbnb?
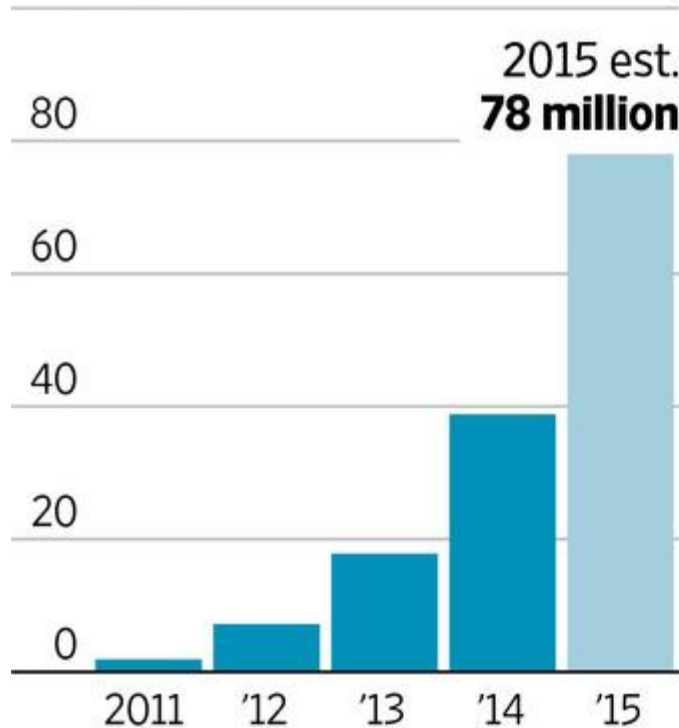
- Why is Airbnb so popular?

http://www.asacredjourney.net/2015/07/seattle-airbnb-apartment/

http://rentingyourplace.com/airbnb-101/

Room to Grow

Airbnb is showing solid growth to investors as it seeks to raise funds.

Nights Booked

Source: the company

Revenue
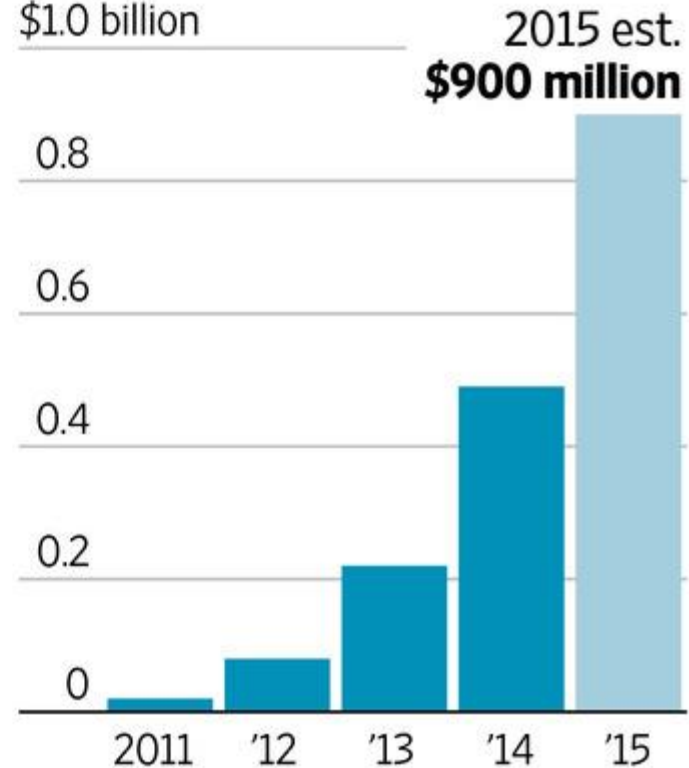
THE WALL STREET JOURNAL.

http://blog.thinque.com.au/futurist-keynote-for-the-hospitality-industry-part-1/2
http://saragbrodersen.dk/how-the-leisure-industry-will-survive-sharing-economy/

"Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening."

Tom Goodwin Senior VP of Strategy & Innovation Havas Media

https://www.pinterest.com/pin/123286108528135231/

@InfoEcon

Firm	Year	Empl.	Mkt Cap	
BMW	1916	116,000	$53B	
Uber	2009	5,000	$60B	
Marriott	1927	200,000	$17B	
Airbnb	2008	3,000	$21B	
Walt Disney	1923	185,000	$165B	
Facebook	2004	12,691	$315B	
Kodak	1888	145,000	$30B	(heyday)
Instagram	2010	13	$1B	(acquisition)

created by Marshall van Alstyne

Platforms with Two-Sided Network Effects
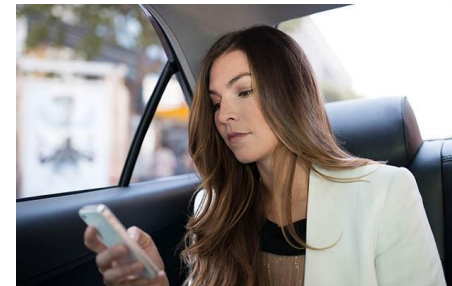
One-Sided Network Effects

● The value from a product/service increases when more customers use the same product/service.

- ▪ Example?
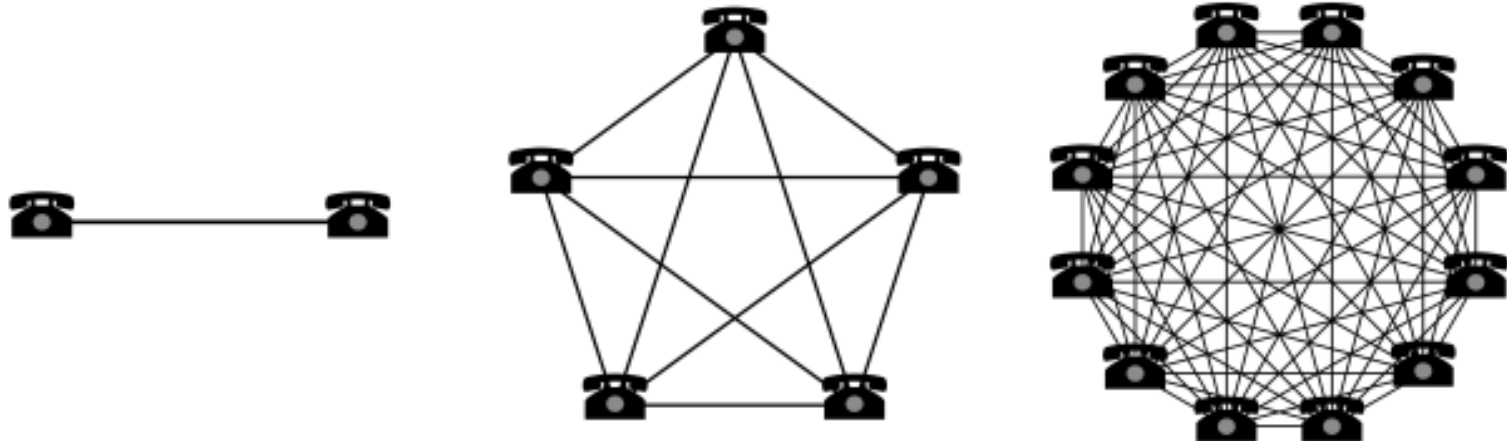
Two-Sided Network Effects

● The value from a product/service increases when there are more customers/suppliers in the other side.

- ▪ Airbnb is more valuable to guests when there are many rental properties listed.

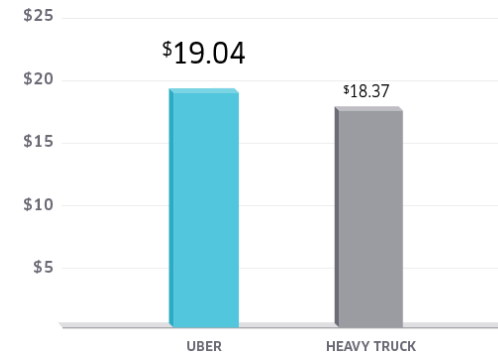- ▪ Airbnb is more valuable to hosts when there are many potential guests.

Uber's Growth

Speedy growth

Uber's global bookings are projected to increase 141% from 2015 to 2016, according to documents obtained by Reuters.

(Global bookings revenue, in billions)

http://www.latimes.com/business/la-fi-0822-uber-revenue-20150822-story.html
https://newsroom.uber.com/truck-driver-jobs-vs-driving-with-uber/

Uber vs. Lyft Growth

Weekly Revenue Trend

Uber is increasing revenue 10 to 11 times faster than Lyft (in absolute terms)

Forecast Values (assumes linear change)
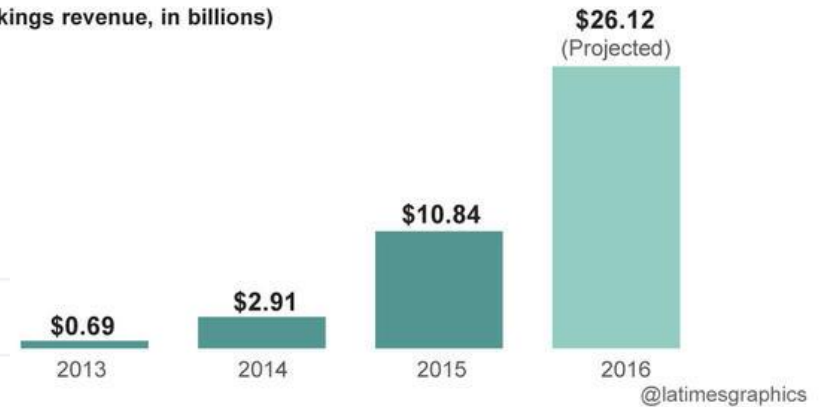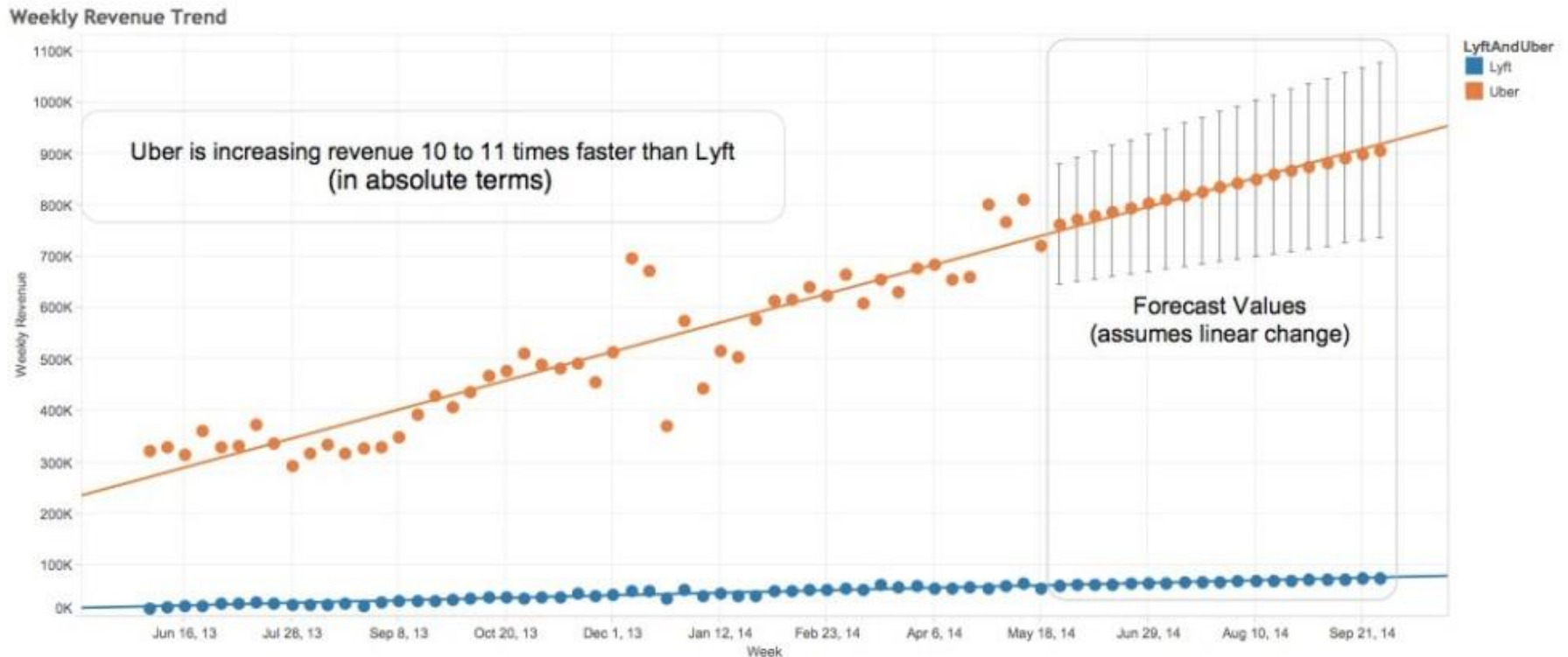
The plot of sum of Amount (actual & forecast) for trans_date Week. Color shows details about LyftAndUber. The data is filtered on trans_date, which ranges from 6/2/2013 to 5/30/2014. The view is filtered on LyftAndUber, which excludes LyftAndUber and NoFeesPaid.

http://www.businessofapps.com/uber-usage-statistics-and-revenue/

Growth of Two-Sided Platforms

● Two-sided network effects gives platform businesses (e.g. Airbnb, Uber, and eBay)

- an ability to scale up the size of operations very quickly

- without a need to own assets and spend a large amount of capital

● Due to network effects, it is increasingly difficult for a new entrant (e.g. Lyft) to catch up the incumbent (e.g. Uber) that has already built a large network of buyers and suppliers.

● Two-sided platforms are not new (e.g. credit cards, real estate agents), but technologies and the Internet allow them to interconnect a large number of suppliers and buyers together.

How to Create Network Effects?

- A chicken-and-egg problem

  - Without potential guests, hosts would not list their apartments at Airbnb.

  - Without apartments listed, guests would not try Airbnb.

- How would you solve this problem in your platform?

http://iterated-reality.com/2015/03/17/the-chicken-or-the-egg-causality-dilemma-solved-by-unity-consciousness/
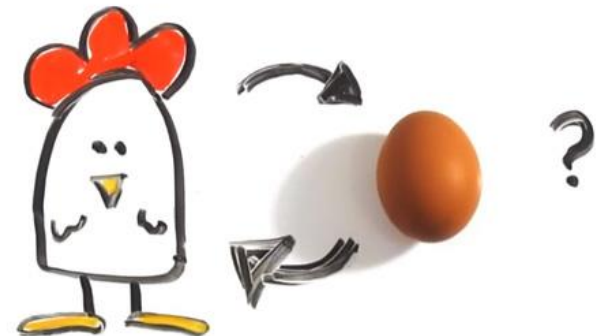
Two-Sided Platform Game (1/2)

● Each group operates a platform (e.g. Airbnb) and competes with each other (e.g. Homeaway).

● Each group starts with 20 customers (guests) and 5 suppliers (hosts).

● In each round, you have to decide how much $ to charge customers and suppliers (between $0 and $20).

  ▪ The number of new customers/suppliers depend on your prices.

● Your goal is to grow the number of customers and suppliers and to make most revenues.

Two-Sided Platform Game (2/2)

# of New Suppliers in Round *t*   **# of Customers**   **Price to Suppliers**

$$q_s[t] = \left(\frac{1 + Q_c[t-1]}{1 + \overline{Q_c[t-1]}}\right)^2 * \max\left(1 - \frac{p_s - \overline{p_s}}{\overline{p_s}}, 0\right) * 10$$

Price to Customers

$$q_c[t] = \left(\frac{1 + Q_s[t-1]}{1 + \overline{Q_s[t-1]}}\right) * \max\left(1 - \frac{p_c - \overline{p_c}}{\overline{p_c}}, 0\right)^2 * 100$$

# of New Customers in t   **# of Suppliers**

- You'll get more new customers q_c when
  - your customer price p_c is low compared to others $(\overline{p_c})$
  - and you have more suppliers (Q_s).
- You'll get more new suppliers q_s when
  - your supplier price p_s is low compared to others $(\overline{p_s})$
  - and you have more customers (Q_c).
- Your revenue = $p_c \times Q_c + p_s \times Q_s$

How Pays Nothing to the Platforms?

Men	**Night Club**	Women
Customers	**Credit Card**	Merchants
Home Buyers	**Real Estate**	Home Sellers
Customers	**OpenTable**	Restaurants
Viewers	**YouTube**	Video Creators
Passengers	**Uber**	Drivers
Buyers	**eBay**	Sellers
iPhone Users	**iTunes**	App Developers
Employers	**LinkedIn**	Employees

● In your platform business, who should pay to you? Why?

Pricing Strategies to Build Network

● An introductory pricing - charging a low price to attract new customers and suppliers

● Once the platform is built, it can raise the prices to recoup the initial investments.

- ■ If the network is large enough, customers/suppliers are willing to stay even with high prices.

● The platform can choose to subsidize either suppliers or customers and to make up from the other side.

- ■ Which side to subsidize depends on their willingness to pay, price elasticity, and need for the other side

"EJ" Incidents in Airbnb (A)

- What happened?

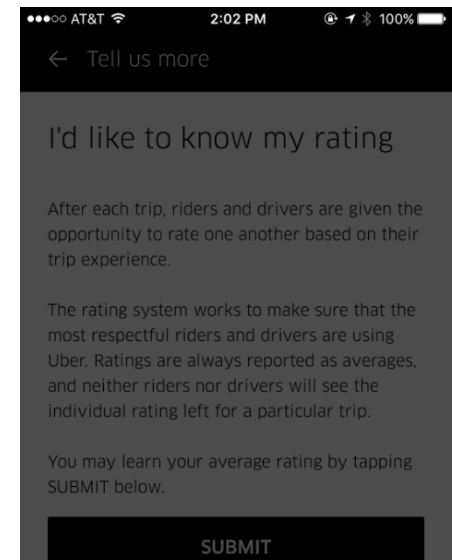- How serious is this incident to Airbnb?

  - What would happen to Airbnb platform if it does nothing?

- What should Airbnb do?

http://www.timesledger.com/stories/2014/3/burglary_tl_2014_01_17_q.html

Online Reputation System (1/2)

● What are the examples of online reputation systems in other platforms?

- How about at eBay?

- How about at Uber?

● Why is a reputation system important?

Online Reputation System (2/2)

● Two-sided network effects depend not only on the size of the network but also on its *quality*.

- A few bad apples in either side can lead to "negative" network effects.

● In order to build a sustainable two-sided platform, there should be a mechanism that ensures *trust and safe interactions* between the two sides.

- Uber passengers should be able to trust drivers for safe rides, and vice versa.

- Airbnb hosts should be able to trust guests for safe stay, and vice versa.

In Uber

- What are the policies in Uber to manage the pool of drivers?

- Why are they necessary?

- Uber drivers are expelled if their ratings go below 4.2 out of 5 or if they get two traffic tickets.

  - Is it too harsh?

http://ubermanilatips.com/uber-rating-system-driver-ratings/

Airbnb (B)

In an August 1, 2011, blog post, Airbnb CEO Brian Chesky apologized for the EJ incident and acknowledged the seriousness of the problem. "We should have responded faster, communicated more sensitively, and taken more decisive action to make sure she felt safe and secure. But we weren't prepared for the crisis and we dropped the ball. Now we're dealing with the consequences." The blog post then announced a series of new policies to address safety concerns surrounding the use of Airbnb.

Chesky's posting continued by announcing a series of improvements:

- A $50,000 guarantee to protect hosts from damage to their personal property by an Airbnb guest.
- A 24-hour customer hotline to provide telephone and e-mail support.
- A doubling of the size of Airbnb's customer support team.

● What do these measures aim to achieve? Why are these necessary?

As of September 2011, Airbnb's "Safety" page listed the following additional protections, all added since August 1, 2011:

- Verifying the addresses of all hosts by requiring each host to enter a code written on a mailing sent to the host's registered address.
- Including a guest's name in the reservation request sent to hosts.
- Allowing hosts to require guests to specify the purpose of their trip.
- Allowing hosts to require guests to complete their profile (including all fields) to submit a request.
- Video profiles to let hosts introduce themselves to potential guests.
- "Voice connect" to let a prospective host and guest speak by phone without learning each others' phone numbers.
- Letting hosts decline reservations without hurting their placement in search results.
- Allowing hosts and guests to link their Airbnb accounts to their Facebook, LinkedIn, and Twitter profiles.

● Which measure is for hosts?

● Which measure is for guests?

● Why are these measures necessary?

One Consequence of This Policy

Study Finds Racial Discrimination by Airbnb Hosts

Renters with names that seemed African American had a harder time booking reservations on Airbnb than those who had white-sounding names.

Researchers set up 6,400 fake profiles of Airbnb guests and assigned them stereotypically white or black names, based on Massachusetts birth certificate data from the 1970s. None of the guest profiles had identifying pictures. They used the accounts to request bookings with hosts in five cities: Baltimore, Dallas, Los Angeles, St. Louis, and Washington, D.C. Airbnb hosts decide whom they want to rent to; requests from white guests got "yes" responses 50 percent of the time, vs. 42 percent for black applicants. The researchers controlled for a variety of factors, such as the host's gender and ratings, and the "race effect," as the paper described it, persisted.

http://www.bloomberg.com/news/articles/2015-12-10/study-finds-racial-discrimination-by-airbnb-hosts

Study Finds Racial Discrimination by Uber and Lyft Drivers

Researchers suggest anonymity for passengers hailing a ride as a possible solution.

by **Eric Newcomer**

October 31, 2016 — 6:00 AM EDT *Updated on* October 31, 2016 — 1:51 PM EDT

Drivers for Uber Technologies Inc. in Boston canceled rides for men with black-sounding names more than twice as often as for other men. Black people in Seattle using Uber and Lyft Inc. faced notably longer wait times to get paired with drivers than white customers. The findings come from a study published on Monday by researchers at the Massachusetts Institute of Technology, Stanford University and the University of Washington.

https://www.bloomberg.com/news/articles/2016-10-31/study-finds-racial-discrimination-by-uber-and-lyft-drivers

Let's Debate!

● Now what should Airbnb or Uber do?

● Should Airbnb actually find out hosts who racially discriminate and ban them from participating the platform?

- If yes, how can it define a racial discrimination?

https://hannahouglum.wordpress.com/2012/03/22/malibu-to-ban-chain-stores-2-2/