Discussion for Computer Mediated Transactions

Class responses to why we should care about this paper (besides the reasons on the slides):

* Our behavior is shaped by the transactions we make (sharing privacy and data in exchange for a commodity, google)

How does combinatorial innovation relate to diffusion?

 (Our answer: the more diverse the opportunities are in the local network, the more opportunities there will be for combinatorial innovations.)

Hari’s comments on combinatorial innovation and computers:

* 1987 - Solo comments that computers will be everywhere except productivity statistics. There is so much investment in computing, **but why no increase in productivity**?
* Conjecture: as people innovate, new software comes out, and there are switching costs.
* Productivity statistics on the internet -- found that productivity went up, but only in the 1990s and 2000s. Went down in 2010.
	+ Though, it’s hard to observe changes in tech
	+ Maybe we’re just in the flat part of an exponential curve?
* Class comments:
	+ Maybe it’s time-wasting websites?
	+ Tech has improved productivity during pandemic

Comments on bullae

* A contract requires parties to satisfy their ends of the bargain. What enforceability is there?
	+ Answer: there is none. Note that the ability to verify and to enforce are different.

Comments on car rental

* Doesn't competition matter here? Even without anyone to enforce the contract, the company wants to be able to give him a low price so that the customer doesn't go to a different car rental
	+ Yes, but this kind of contract can allow companies to better undercut other companies
	+ Even without competition, the company may make more money by reducing their insurance overhead, than from the loss by getting less from the customer
	+ The correct word to use is enabling new forms of contracts and not to enforce new contracts.

Comment on online advertising

* Calculating clicks per impression is hard. Companies spend a lot of effort on it and good calculations can make the difference in survival on the advertising market.
* Nowadays, advertisers have to calculate click-through rates (clicks per impression)

Recap: computers enable new contracts and better analysis of behavior

* As people interact with Google, we have more fine-grained data of the economy. We have more info about individual behavior and in real-time.

Hari: Two questions to think about

1. Yes, you can allow for mass experimentation. Notice that Google does this without paying anyone. We are subjected to a mass experiment on user interfaces, anything that benefits them. Should we get pay for all the work we do in helping tech companies to improve their bottom line?
2. A/B testing, the way in which Hal Varian described in the paper: the most common pitfall is the way these companies do their A/B testing, he/she is patiently waiting until the A/B test has a significant level of say, less than 0.01. What could be a problem with this? Imagine that you have an engineer and an A/B test. You have interface 1 and 2 and you are waiting/keep changing your n until the test says, yes, the differences are significant.

The problem is that in an experiment, you have to set the sample size n before starting the experiment. You can’t wait for the significance to be less than 0.01 and you cannot keep changing n. How can you correct this problem?

 (Answer: there are special statistical methods)

Other issues with doing experiments: ethical issues (informed consent)

Discussion in chat: Too many options, filter bubbles.

The problem with personalization is that companies give you too many options, so we don’t have the ability to choose because there are just too many different ways to personalize. So, it could be a strategic aspect for the company. Hari mentioned chatting about this with someone and it was mentioned that Facebook gives all these options because they do not want you to make good choices. So it is something to think about. Personalization, yes but who actually benefits?

Rick: Highly rationalized business that is set up to optimize a bunch of matrices and squeeze every cent out of the bottomline, can’t afford to take the risks/too big of a business to engineer in. Two sides to the transaction.

Hari: Pitfalls of recommendation system. You want to be surprised and not be confronted with stuff that everybody does.

Hari: Does the fact that you have a shared google doc make production of new knowledge easier than meeting in person and brainstorming about ideas on a whiteboard.

Does computing provide an illusion of improved productivity but actually does not?

Question: Which is better? Conference call on the phone or asynchronous editing on the google doc?

(Best) answer from the chat: Depends on the task.

Hari: Since the time that Hal Varian wrote this paper, we have seen productions, new computer mediated transactions, gig economy. Gig workers face many challenges like not having benefits, nothing ensures they get a fair deal, no protections. So, are people really better off? What about their welfare? It is easy to make flexible contracts for people who want to work for a short period of time. But why isn’t it as easy for us to provide protection for them at the same time? For example, if I am a driver and I decided that I am going to drive for 3 hours today. Why can't I have insurance for 3 hours today, in case I have an accident?

Hari: I think there is an opportunity to support these employees in a way that could go outside the legal framework.