Contact information

- Name: Anca Patricia Anghel
- E-mail: aanghel@mit.edu
- Phone Number: 609-233-4210
- Address: 550 Memorial Dr, Apt. 2D3, Cambridge, MA 02139

Course of study

I am currently a third year graduate student in the Economics Department at MIT. My major fields are Industrial Organization and Economic Theory and my minor fields are Organizational Economics and Econometrics. Thus, through my coursework I have been exposed to a variety of theoretical models as well as empirical methods.

Research interests

My general research interests are related to:

- consumer behavior in online markets,
- the welfare effects of new technologies such as video streaming
- incentives of video streaming companies to invest in original content (vertically integrate) as well as incentives of providers to enter the streaming market
- how firms with an offline presence adapt and compete after the rise of e-commerce

One of my main research interests is about search frictions in online markets. The search literature thus far has focused on costly price search (e.g. Hortacsu and Syverson, 2004) while I am interested in looking at match-quality search in a setting with observed prices. This means that consumers search for the best product while prices are observed and it is a strand of literature that has not been studied very much.

Despite the fact that search costs should be lower online, there is still a lot of evidence that search frictions exist. For example, Fradkin (2017) documents that consumers click on few listings when looking at short term accommodation on AirBnB and the paper estimates quite large costs of an extra click. Consumers who shop on a particular website can usually observe prices without having to click the link for a product. Moreover, large e-commerce websites like Amazon and EBay have focused on making shipping charges transparent, so it is reasonable to assume that consumers can easily figure out the price of a product. Thus, if consumers spend time searching online they are probably trying to figure out which product is the best fit for them. Given that e-commerce platforms focus on improving recommender systems, it is likely that they also acknowledge the existence of such search frictions.

Building on a theoretical model of sequential search by Kim et. al (2017) and Weitzman (1979), I am planning to estimate a demand model incorporating match-quality search using aggregate data. The theoretical model assumes that there is an exogenous product-consumer specific component of the utility function that a consumer does not observe and needs to pay a search cost to figure it out. Prices are observable, search is sequential and recall is free. Kim et. al (2017) shows how the model is equivalent to a discrete choice model, but in which the utility from each product is a modified utility incorporating both the prior of the match-quality component and the search cost. Using the estimates of the demand model I could compute the welfare implications of search frictions. Moreover, I would be able to compare the demand estimates of a model that accounts for search frictions and a model that does not. Since demand estimates are used to compute counterfactuals such as merger effects, it is important to understand how search frictions can affect these results. While aggregate data is more easily available, the drawback of

this approach is that it requires parametric assumptions on both the distributions of search costs and the distribution of match-quality (the component of the utility function that consumers need to pay a search cost to discover). Thus, I am also working on obtaining more detailed data on consumer search behavior. This data would allow me to non parametrically identify the distributions of search costs and match-quality.

In addition, the theoretical model could be improved to make it more realistic to the setting of online markets. An important issue is related to the fact that prices online can change fast, so it is very likely that free recall is violated. Thus, taking into account the possibility that consumers might not find the same price for a product when going back could change the predictions of the model.

Other projects I am considering are related to the emergence of video streaming services such as Netflix, Hulu and Amazon video. First, I am interested in understanding why these streaming services are starting to produce original content instead of contracting with content providers. I plan on analyzing changes in firm boundary (becoming vertically integrated) as a result of increased competition. Second, I am interested in measuring the welfare effects of the emergence and spread of this technology. On the one hand, we expect a long-tail effect as documented by Anderson (2006) and Brynjolfsson et al. (2011) in online markets. This should lead to an increase in consumer surplus. On the other hand, video streaming can result in decreased sales of videos and DVDs and in consumers switching from more expensive cable subscriptions. Some consumers might substitute away from pirating movies and TV shows. Aguiar and Waldfogel (2015) shows that in the case of music, streaming seems to be revenue neutral, but we do not know whether that is the case for video streaming services. Although the streaming companies do not release viewership data, Nielsen is starting to collect it, making it possible to address these questions in the near future.

Another research question that I find interesting is regarding which firms with an offline presence can still be successful after the emergence of online markets. This can require offline retailers to expand in the online markets or sell only offline. While selling online can be more efficient and allows for flexible pricing, it also requires firms to deal with shipping and most likely returns which can be very costly. Cavallo (2017) documents that there is very little price dispersion within retailer online versus offline suggesting that although it should be easier for firms to change prices online and respond to competitors, they choose not to. It is well known that some large retailers (Macy's, Sears) are struggling and one of the reasons why is probably because they do cannot adapt their pricing and inventory very quickly. I would like to think more about whether this inefficiency can be quantified.

Given the focus of my research interests, I think that participating in the NBER Digitization Workshop would be a great opportunity to learn about the research frontier. Moreover, since I am still shaping my research agenda, I think the workshop would provide valuable insights on which ideas to pursue further as well as learn more about available data sources and other resources.

References

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