

Effects of New Media on Eviction Rates

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Abstract— Social media has impacted society in many unexpected ways, including the real estate and housing markets. Particularly, in these markets, social media can affect the structure of the communities, landlord-tenant relationships and, subsequently, the eviction problem. With the growing availability of search data from online sources, there is increasing interest in how individuals' choices reveal submarkets in domains, especially those that have a social component, i.e. online reviews and connection to social media among others. To demonstrate the structural components of the subnetworks that develop via the rental market that cause eviction and the market outcomes that result, we will use network analysis. This research aims to combine online review and social media data with eviction data to explore the range of effects of new media on the eviction rates.

Keywords—big data; social network analysis; data analytics; data visualization; eviction.

I. INTRODUCTION

The eviction crisis in the united states has recently drawn a plethora of public attention – much of which is due to the efforts of dr. Matthew desmond who authored the pulitzer-prize winning book *evicted: poverty and profit in the american city*, which was published in 2016. Drawing on social science research, including his own, desmond (2016) has made a compelling argument that evictions are not only the result of poverty, but are a major source of poverty perpetuation and exacerbation.

Philadelphia, like other cities, is currently facing an eviction crisis with over 240,000 evictions filings in 2017 alone. To address this problem, the Mayor's Task Force on Eviction Prevention and Response has been established. Temple University's Data Science Institute aims to contribute to the City of Philadelphia's and the nationwide effort to combat the eviction crisis. The research outlined in this proposal aims to yield findings that will aid existing programs and inform the development of new programs and policies.

The proposed project is concerned with the effects of new media, such as social media and shared economy platforms, on eviction rates and housing scene in general. In the next

section, we outline the questions that we will address within the scope of the proposed project.

II. RESEARCH QUESTIONS

In this section, we provide and elaborate on the research questions that we will address within the scope of the proposed project.

- A. *How does advertising targeting affect the eviction problem, and more generally, the housing situation?* Targeted online advertising can help municipal and national programs reach out to vulnerable populations and inform them about their rights and government assistance programs. For example, New York City runs a Propel app that helps people manage SNAP benefits and relies heavily on Facebook advertising. On the other hand, it has been argued that advertising targeting can be used for discrimination purposes: for instance, housing advertising may exclude protected categories of potential tenants. As a response to those concerns, Facebook recently agreed to restrict targeting options for housing, employment and credit ads. However, it is not clear how widespread is the abuse of advertising targeting and what is the magnitude of its consequences. It is also unclear if restricting targeting options for housing ads is sufficient to protect vulnerable populations, especially when there are no such restrictions for related categories, such as educational institutions and legal advice. In this project we aim to investigate the effects of targeted advertising policies on the evictions problem in Philadelphia.
- B. *Does Airbnb play a role in the eviction crisis? Many hosts claim that they sign up for Airbnb to offset high rent costs. Hosting an Airbnb on a rental property is often explicitly prohibited by a lease contract, but the need for additional income can encourage a tenant to take the risk. Such violations can lead to eviction of the Airbnb host, and there is anecdotal evidence that such situations indeed happen. We propose to conduct a*

systematic analysis of the effect of Airbnb emergence and its policies on the eviction crisis.

- C. *What is the network structure of the eviction community? What overlapping communities and sub-communities exist?* Evictions are the result of a breakage in the relationship between a landlord and tenant and cause serious hardships on tenants and the housing landscape. Government agencies, non-profits, lawyers and judges support both landlords and tenants with services, information, or enforcement. To determine the network structure, we will complete a thorough network analysis to visualize its large-scale eco-system. We will also include data regarding eviction filings to determine frequency levels and prominence in the network structure. We will perform additional analyses to determine betweenness levels among the nodes to uncover intermediary or conduit roles and outcomes. This analysis will aid in determining network-related effects regarding eviction cycles and their impact.

III. RESEARCH METHODS

The Research Methods section describes the methods this study will utilize to address our research questions.

A. Data Visualization

The first step in the proposed project is to generate descriptive statistics that include data visualization. Data visualization of landlords, tenants and eviction victims can provide important insights into eviction trends, demographics and related behaviors.

B. Social Network Analysis

Social network analysis takes as its starting point the premise that social life is created primarily and most importantly by relations and the patterns formed by these relations (Scott and Carrington, 2011). Numerous applications have extended social network analysis into the study of political and policy networks (Bond and Harrigan, 2011; Knoke, 2011). Analyzing eviction victims from a network perspective will determine aggregate choices with regard to frequency and geographic locations, rental

payments, visualization of the evictions at site and city levels, and subnetwork patterns. Using a causal inference approach, we will create a network model assigning individuals a position in a latent space based on City of Philadelphia data and determine the network structure of eviction victims using aggregate data and predict outcomes using housing cost and income rate changes.

C. Quasi-Experiment

To elicit causal effects of technological disruptions (e.g., emergence of social media, development of advertising targeting and policy interventions) we will use the longitudinal data of eviction patterns and, controlling for other relevant factors, estimate what changes can be attributed to the factors in questions.

IV. TIMELINE

- A. *September-October 2019* Data collection, tidying and visualization. We will use obtained insights to refine research questions within the identified directions.
- B. *November 2019 - February 2020* Data analysis, visualization, network analysis and development of policy recommendations. We will first focus on the impact of advertising targeting. We will use historical data on Philadelphia eviction filings and the data on evolution of targeted advertising and policies restricting it. Controlling for other factors, we will evaluate how advertising targeting affects the evictions situation.
- C. *March - May 2020* Analyzing the data related to the Airbnb effect on eviction crisis. Addressing other research questions that may emerge on the previous stage.

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