The Effect of Online Tools on Residential Real Estate

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

Making up about 17% of the United States' GDP, real estate is a major influencer of the U.S. economy. While the average home sale can generate approximately double the average American salary on strong years (Evangelou, 2022), housing market fluctuations during underperforming years can cause massive repercussions to the U.S. economy and its citizens. As the homebuying process changes with the increasing use of online tools like Zillow, I question how new market dynamics can influence a crucial part of the economy. Even though Zillow's Zestimates are representative of a black box by converting varying housing data to home values, the estimating feature is still relied upon by many consumers to gauge market performance and value. The resulting effects and corresponding futures of such tools will be investigated further in the report through the Social Construction of Technology framework.

Introduction of SCOT framework

The Social Construction of Technology (SCOT) is an STS framework that explores how social factors influence the development, adaptation, and use of technology. Bijeker et. Al (2012) suggest that technology is shaped by different stakeholders' values, beliefs, and interests rather than created by itself. After implementing the SCOT framework and considering all stakeholder positions, researchers can better understand the complex social factors that shape technology and its use. This understanding can then inform more effective and responsible technology design, adaptation, and policy.

SCOT has four main tenets: relevant social groups, interpretive flexibility, closure and stabilization, and the wider context. Relevant social groups are the people who shape and develop a technology. Interpretive flexibility is the idea that a single technology can be designed,

perceived, and used in a variety of ways. Closure and stabilization happen over time when one technology design becomes the accepted or favorite technology by a society. The wider context focuses on other factors that influence a technologies design.

I chose the SCOT framework because it provides a comprehensive system to analyze the complex relationship between technology and society. In particular, SCOT emphasizes the importance of studying the social processes and negotiations that occur during the development and adoption of new technologies. Given the rapid growth of online real estate platforms like Zillow, it is essential to understand how these technologies are shaped by social and cultural factors, and how they, in turn, shape the real estate market and its stakeholders. By applying the SCOT framework to my topic, I can examine how Zillow was developed, adopted, and used, and how different stakeholders interpret and value this technology. This analysis can provide valuable insights into the potential positive and negative effects of Zillow on the residential real estate market and inform potential policy responses and business strategies.

Background

Before the rise of Zillow and other online real estate platforms, the homebuying process was typically much more reliant on real estate agents and other industry professionals. Homebuyers would typically need to connect with a real estate agent to find properties that met their criteria, as the agent would have access to information about homes that were listed for sale through the Multiple Listing Service (MLS) which is only attainable with a real estate license. According to a survey conducted by the National Association of Realtors Research Group (Christopherson, 2021), 51% of recent homebuyers found their new home from the internet and only 28% accredited their finding to a real estate agent. Evidently, the homebuying process is changing, and as seen by the burst of the housing bubble and subsequent recession of 2008, the

residential real estate market has a profound impact on the overall U.S. economy. Misinformed purchases have costly indirect effects far beyond the immediate buyer and seller.

In order to research the housing market without an agent before tools like Zillow, homebuyers would often need to rely on traditional sources such as print advertisements, open houses, and word-of-mouth referrals. This process could be time-consuming and limited in terms of the number of properties a buyer could realistically consider. Overall, the homebuying process before the rise of Zillow was less transparent and less accessible to homebuyers without a real estate agent. The use of online platforms like Zillow has given buyers greater access to information about the housing market and a greater ability to research and compare properties on their own terms; however, many have questioned the legitimacy of Zillow since its beginnings and wondered whether putting more power into the hands of consumers is actually beneficial.

Problem Frame

Researchers have found several areas where Zillow appears to be problematic. In a study from 2014 (Corcoran & Liu), Zillow was found to have a median error of 24.8% between final sale prices and Zestimates. Homes in the one-star market had a significantly greater mean error of 30.5% compared to the rate of 17.2% in the four-star market. Surprisingly, the Zestimate was almost always an overestimate in one-star markets; however, Zillow has since worked to address these overestimates. The company hosted a competition in 2019 (Esswein) which it claims will improve the Zestimate's margin of error to below 4%. Although this improvement seems promising, Zillow has historically underestimated the Zestimate's margin of error relative to outside studies. Wei et al. (2022) argue that the Zestimate suffers from uneven data quality – a problem which Zillow has ignored in their algorithms. The implications of such overestimates on

communities will be investigated further in the report but could include increased taxes and deterred potential buyers.

In addition to the Zestimate, some have accused Zillow of contributing towards racial steering. Loukissas (2022) claims that real estate websites like Zillow require sellers to report transaction data which can then be used to increase rent or taxes on the surrounding community. The outcome is especially profound for predominately black, low-income residents in urban areas who could be displaced. Humber (2020) asserts that Zillow contributes to segregation by linking student demographic data on a school ranking website which could persuade potential buyers away from certain neighborhoods. By solely focusing on quantifiable data points and demographics, Zillow ignores the rich history of homes and could exacerbate racial steering.

While the future of Zillow is uncertain, it will likely go beyond just providing data to consumers. Zillow previously launched an iBuying program designed to purchase homes undervalued relative to their Zestimates and quickly flip the homes for profit. Zillow ended the campaign after selling their flipped houses for an average discount of 4.5% and recording over $500,000,000 in losses. While Zillow's CEO, Rich Barton, attributes the failure to a lack of scale, Clark and Buhayar (2021) argue the failure stems from how Zillow used the Zestimate. One should not expect a Zestimate to be truly accurate, and Zillow's discounted home sales serve as evidence. Going forward, many believe Zillow will reintroduce a modified iBuying program; however, the effects of Zillow offering cash for homes based on uneven owner inputted data could be problematic.

Analysis by SCOT framework

To begin this analysis, the relevant social groups must be identified. Zillow's platform serves a wide range of social groups including home buyers, sellers, owners, investors, and real estate agents. The company has disrupted the traditional real estate industry by providing homebuyers and sellers with more information and data which has shifted power dynamics and increased competition among real estate agents (Christopherson, 2021). Additionally, Zillow executives and policymakers will be considered as it is a for-profit company in an industry that is heavily regulated. All these social groups will be considered in the sections to follow.

Zillow exhibits interpretative flexibility in many ways. Firstly, the Zestimate can be interpreted in different ways by different social groups depending on their understanding of how the algorithm works and their level of trust in Zillow's data. Real estate professionals have criticized the Zestimate for being inaccurate or misleading, while many homebuyers and sellers see it as a useful tool for understanding the value of a property. When these opposing viewpoints meet, conflict can arise when attempting to come to an agreement on a home's true value. For example, if a real estate agent determines that a home's Zestimate is overvalued, the seller may become frustrated especially if they had been relying on receiving a certain amount of money for the home. On the other hand, savvy investors may exploit the Zestimate to gain favorable deals from sellers when homes are undervalued. Zillow executives have worked to alleviate these issues by increasing the accuracy of the Zestimate and accompanying home data.

Zillow has undergone significant changes since its founding, further demonstrating its interpretive flexibility. Initially launched as a platform for providing listings with estimated home values, Zillow has since expanded to include features like rental listings, mortgage quotes, and purchasing directly through the site. These changes reflect the evolving interpretations of Zillow's purpose and the company's efforts to respond to the needs and desires of its users.

Overall, the meaning and purpose of the platform have been shaped by the various social groups that use it and have evolved over time as the platform has grown and changed.

Zillow exhibits closure and stabilization by having a standard set of features, integration with other platforms, and dominance in the market. Over time, Zillow has developed a standard set of features that are widely recognized and expected by its user community to search and filter real estate listings. It has also become integrated with other third-party platforms to receive data about home sales, schools, and local amenities to help derive more accurate Zestimates and value for its users. Additionally, Zillow's dominant position in the real estate market has contributed to its stability. As the largest online real estate platform in the US, Zillow has been able to set the standard for how public real estate transactions are conducted online.

Zillow's house flipping program, on the other hand, is no longer apart of the company's objective after facing public criticism and financial losses (Clark & Buhayar, 2021). Potential homebuyers would be concerned that Zillow is contributing to a housing market that is driven more by profits than by people's needs for safe, stable, and affordable housing. Homeowners would be concerned about issues like gentrification and displacement. Furthermore, home sellers would be concerned that Zillow may undervalue homes with their Zestimates to make their offers appear more attractive. Real estate agents would not support Zillow Offers as they wouldn't receive any commission and would believe to be able to get their seller a better deal; however, Zillow executives would be attracted to the potential profits by utilizing their vast data resources. Finally, the program would take the work from individual investors who make a living from flipping homes.

Lastly, there are many other factors that have shaped the development of Zillow in a wider context. One key factor is the changing demographics and lifestyles of homebuyers and

sellers. Millennials and Gen Z homebuyers have grown up with technology and are more likely to use digital tools to search for properties and make purchasing decisions rather than through older mediums like newspapers. Zillow's user-friendly interface and advanced search capabilities have made it a popular platform for these tech-savvy users. Moreover, the broader economic and political context has also influenced the development of Zillow. The COVID-19 pandemic forced society into lockdown which prompted the need for online real estate transactions and viewings. The resulting economic downturn could also economically motive buyers and sellers to avoid paying costly realtor fees.

Discussion

Although it brings information to the hands of prospective homebuyers and sellers, Zillow can have negative effects on the residential real estate market. The three main issues found in research revolved around inaccurate Zestimates, racial steering, and Zillow Offers. After performing the SCOT analysis, I will now offer my thoughts on these three main issues and identify possible solutions for Zillow to become a more positive force in the residential real estate market in the future.

In regards to the Zestimate, Zillow has continually made efforts to improve the accuracy of their algorithms in predicting home sale price. Zillow has proven themselves by continuously decreasing the error rate between Zestimates and sale prices since its origins (Esswein, 2019). Although it is nice to see that Zillow is dedicated to becoming a more accurate tool for its consumers, Zillow is still lacking transparency with its consumers about how the Zestimate is calculated. The Zestimate has always been a black box and it has never been clear what specific data points and weighting factors go into their algorithms. If Zillow was to increase their transparency it could help build trust with users and provide additional insights about what gives

a certain property its value. Additionally, the Zestimate has always been given as a single value; however, it may be beneficial for Zillow to also include a confidence interval of what a particular home might be worth. This would help set better expectations for homebuyers and sellers when determining what a house is truly worth. It would also reinforce the notion that the Zestimate is only an estimate and that a real estate professional's advice could help determine the actual value of a home. Moreover, the confidence interval would help differentiate properties that Zillow has sufficient data on to make confident estimations from properties with missing data that could lead to more inaccurate estimates with greater ranges. This distinction could help alleviate the issue of uneven data quality brought up by Wei et al. (2022). Currently, there is no way to tell how confident Zillow is about a particular Zestimate and adding these features would help to increase transparency for Zillow.

The second major issue scholars have found with Zillow relates to racial steering and displacement. Although it may be true that Zillow could accelerate the process of gentrification by providing immediate sales data to the public, displacement is a product of broader economic and social forces that have existed long before Zillow originated. While Zillow may provide information and tools that help buyers and sellers navigate the real estate market, it does not control the larger economic and social factors that contribute to displacement. Other scholars have been skeptical that Zillow's algorithms and data may contain biases that contribute to racial steering and segregation (Humber, 2020). Although this is currently unclear, should Zillow make the aforementioned efforts to increase Zestimate transparency so trust can be gained against certain biases. Finally, Zillow includes Great Schools data to rank school districts which includes demographic data. Although Zillow links to this data, the SCOT analysis has shown that Zillow is simply a supplier of information and has no motivation to encourage sales in less ethnic areas.

The final major issue scholars have found with Zillow relates to the iBuying program and its potential future return. Currently, Zillow is a service that supplies consumers with information in part to help determine the value of a home. By returning the iBuying program, Zillow would become both a buyer and seller while still acting as a supplier to information. These functions create a conflict of interest for Zillow as they attempt to buy properties at bargains and quickly thereafter sell properties at premiums while simultaneously serving as an estimation for home value. It will be difficult for Zillow to achieve these three tasks concurrently while boasting a company guided by transparency and trust. Some potential issues involve Zillow prioritizing the marketing and sales of their own properties while limiting exposure to other properties and lacking transparency by not sharing all of the available data on a home and market. Overall, the return of Zillow Offers would likely lead to a perception of bias which could hurt the company's reputation, so I would recommend that Zillow commit to only being a supplier of information as they have originated.

Conclusion

Online tools such as Zillow have revolutionized the residential real estate market by enabling homebuyers and sellers to view homes without the assistance of a real estate agent in a way like never before. By utilizing the SCOT framework, the effect of such online tools on residential real estate was analyzed. Scholars and real estate agents have scrutinized Zillow for providing inaccurate Zestimates while other homebuyers and sellers appreciate the new supply of information at their fingertips. Homeowners have accused Zillow of contributing to racial steering and displacement while Zillow executives claim they are only supplying information which is then used by outside policymakers. Homebuyers and sellers use Zestimates to determine a homes value which Zillow executives have used to make low offers and high sales. Going

forward, Zillow must increase transparency to gain trust from its users. It is recommended that Zillow shows how Zestimates are calculated for homes and provides confidence intervals to each Zestimate. Furthermore, it is recommended that Zillow focus solely on being a trustworthy supplier on information; thus, Zillow should not return the iBuying program.

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