

THE RISE AND EFFECT OF PEER TO PEER MARKETS

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By

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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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Many pieces of technology that have come to dominate society were initially presented as solutions for easing the lives of individuals. These technologies include smartphones, social media, automated checkouts, delivery services, and many more. While it is true that every day life has become significantly easier due to many facets of these technologies, it has caused society to become more isolated as individuals than any other time in history. Adibifar (2016) points out that “we no longer need to talk to clerks in shopping centers, post offices, and grocery stores because there are self-check-out stations” and “we no longer need to interact with tellers in banks, because we are increasingly interacting with ATM machines or using online banking” (p. 64).

Peer to peer marketplaces (P2P) are becoming an increasingly popular business model which allow members to connect and provide services for the people around them. The Science, Technology, and Society (STS) and technical work are tightly coupled to explore how P2P markets can work to strengthen communities and fight alienation. The technical research will determine the key components for a successful P2P marketplace, which the team will then use to develop The University Marketplace. The marketplace will be an online platform where members of The University community can buy and sell used products. The tightly coupled STS research will then use a Social Construction of Technology model to show how these P2P markets benefit societies by strengthening communities, reducing waste, and giving power to the individual.

INCREASED ALIENATION IN SOCIETY

Members of society are continually becoming more and more alienated from one another due to technological advancements. The electronic age has brought immense amounts of efficiency and convenience to everyday life but it has caused people to sacrifice many of the face to face interactions that they used to have. For example, there is no longer a need to interact with anyone in a store when you can use a self checkout and the need to go out and meet your neighbor is quickly fading due to people remaining connected with those they already know online. Furthermore, before industrialization many products were handcrafted and sold on a very personal level which, according to Adibifar (2016), meant “People had more face-to-face social interaction, a stronger social bond, and shared the same social norms and values” (p. 62).

There are several types of technologies that are causing increased levels of alienation, but technological innovations that rely on the internet cause the most extreme forms of alienation. The following excerpt from Adibifar’s *Technology and Alienation in Modern-Day Societies* (2016) is a perfect example of how technology that was supposed to make communication easier has started to undermine the value of a face to face conversation:

With electronic mail (email), social networking websites, and text messages, face-to-face conversation is becoming more obsolete. Instead of taking time to call someone or write letters to family, many people send text messages that barely make grammatical sense. It is true that technology has made it easier for people to interact, but it also has and continues to diminish the value of human communication (p. 64).

Technological advancement is typically inspired by a desire to make some aspect of everyday life a little more convenient. Self checkouts allow customers to get in and out of a store faster when they only have a few items. Phones and electronic communication make it easier to communicate with loved ones from afar. While it is important to note that this is not necessarily how all technological advancement occurs, this desire to make certain aspects of

everyday life more convenient is the most common way society sees new advancements come about. Figure 1 below illustrates this pattern of technological progress.

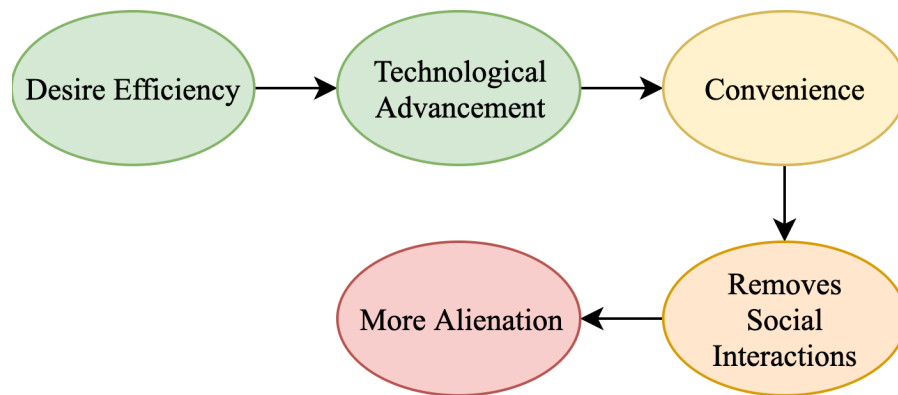


Figure 1 : Technological Progress and Alienation: A desire for higher efficiency leads to a drive for technological advancement and while it is typically associated with improved efficiency and convenience, many times it leads to the removal of social interactions and more alienation (Choi & Workman, 2019)

It begins with someone experiencing an inconvenience in everyday life sparking a desire to make that aspect of their life a little more convenient. They then work to create a technological advancement to make that aspect of their life easier, which in turn creates more convenience in their everyday life. Unfortunately, in many cases today this pattern of technological advancement results in reduced social interactions. Even in the example of the phone, the user may still be having a social interaction but a phone call will never hold the same genuine value as a face to face conversation. In the short term, these reduced or undervalued social interactions will not seem like they are having a noticeable effect on one's life. Overtime, however, this pattern of technological development has the potential to fundamentally change the amount of social integration that society deems normal.

HOW TO FIGHT ALIENATION IN SOCIETY

With all of these technologies increasing alienation, the question becomes whether or not there exist certain technological advancements society could strive for that would actually help to fight alienation and bring people together.

In Leo Marx's *Does Improved Technology Mean Progress*, he poses important questions when considering what progress really means. He argues that society has moved from the old view of technological progress being a tool for achieving the goal of social progress to a modern view of technological progress being the end goal itself (Marx, 1987). Marx states that ardent republicans such as Condorcet, Priestley, and Benjamin Franklin all "regarded the new sciences and technologies not as ends in themselves, but as instruments for carrying out a comprehensive transformation of society" (Marx, 1987, p. 2). In his closing statements, Marx (1987) leaves the reader with the powerful question of "What do we want beyond such immediate, limited goals as achieving efficiencies, decreasing financial costs, and eliminating the troubling human element from our workplaces?" (p. 9). Although Marx's work is a bit dated, it is still incredibly relevant to the technological development society is seeing today and it is Marx's way of thinking that will help to fight alienation.

If technological advancement is driven solely by a desire to achieve efficiencies, decrease financial costs, and eliminate troubling human elements from the workspaces, then technology becomes a perfect catalyst for alienation. If society continues down this path for long enough, more and more social interactions that everyday consumers have will continue to fade. As Marx suggests throughout the article, society needs to revert to the old way of thinking and use technological development as a tool for social progress.

While the internet has created a platform for increasingly alienating technologies to flourish, it has also provided the grounds for a technological advancement that is helping to combat the increasing alienation in our society. In a recent market research report from PwC (2015) on P2P markets, 83% of those surveyed said it makes life more convenient and efficient, 86% said it makes life more affordable, and 78% said it builds a stronger community. P2P markets provide us a way to achieve efficiency, decrease financial costs, and actually bring more human interaction into the process, making it a tool that can be used to achieve both technological and social progress.

HOW PEER TO PEER MARKETS FIGHT ALIENATION

A peer to peer market is a platform in which individuals are able to interact and connect with each other without mediation from a third party (Kenton, 2018). Many members of society have participated in a peer to peer market, as some notable examples include AirBnb, Uber, Craigslist, and Ebay. All of these platforms exist as a way for members of a community to provide goods and services directly to each other, without needing to go through a traditional business to satisfy a certain need. Artists are able to share their work with the surrounding community, skilled workers are able to provide their expertise to neighbors, and individuals are able to find a new home for their unwanted goods. These transactions have the power to increase the quality of one's everyday life. Schuetz (2016) states that “Services offered through online P2P platforms have the potential to increase quality of life by reducing transaction costs for many daily activities” (para. 18).

One reason these businesses have become more desirable than traditional approaches to providing goods and services is due to the personalization of the services or transaction. In the

case of Airbnb, Hwang and Griffiths (2015) state that “an important aspect of its service is the exciting and pleasurable experience of the community interaction, personal service and accommodations, making for a more enjoyable and memorable experience between travelers and local hosts” (p. 134). Consumers will be more inclined to stay in someone else’s home than in a traditional hotel, due to the familiarity and comfort of the stay. Furthermore, consumers are more likely to receive a positive experience due to the rating systems that most of these platforms use. As SteelKiwi (2018) points out, this is the precise reason companies such as Uber and Lyft have been so successful:

Most services have star rating systems that help rate users on both ends of transactions. For example, Uber and Lyft ask both drivers and passengers to rate their experiences. These ratings let the company filter out bad users and improve with every interaction. Drivers on Uber are allowed to have no less than a three-star rating. As a result, riders don’t have to worry about having a bad experience (para. 34).

The providers of these services have an obligation to give the consumer a good experience, because if they do not, the consumer will simply choose another supplier who has better ratings. This in turn causes the supplier of said service to constantly check up on the consumer to ensure all of their needs are being met. Again in the AirBnb example, having the host of the home reaching out and checking on you is a much more socially rewarding experience than staying in a traditional hotel.

The ability for P2P markets to bring people together is so strong that Kenton (2018) points out “Some peer-to-peer services don't involve an economic transaction, such as buying and selling, but they do bring together individuals to work on joint projects, share information, or communicate without intermediation.” In these cases, P2P markets function as a tool to combat the alienation in our society. Marx would argue that this use of a technology as a tool for higher social progress is what the essence of technological development should be. The technology in

this scenario is not the end goal in itself and is not even used for economic gain or profit. Instead, it exists simply as a way to bring people together in pursuit of social progress.

SOCIAL CONSTRUCTION OF PEER TO PEER MARKETS

In order for peer to peer marketplaces to become more prevalent and continue working to bring communities together in our society, the engineers behind them must ensure they are creating markets that benefit society in the right ways. In order for this to be possible, a Social Construction of Technology model (Bijker and Pinch, 1987) may be used as seen in Figure 2 .

As Johnson (1987) points out, “A variety of social factors and forces shape technological development, technological

change, and the meanings associated with technology” (p. 1791). P2P markets have an immense amount of interpretive flexibility due to the vast array of applications they can cover.

Interpretive flexibility means that different artifacts will have different uses, meanings, and interpretations for different social groups (Bijker and Pinch, 1987).

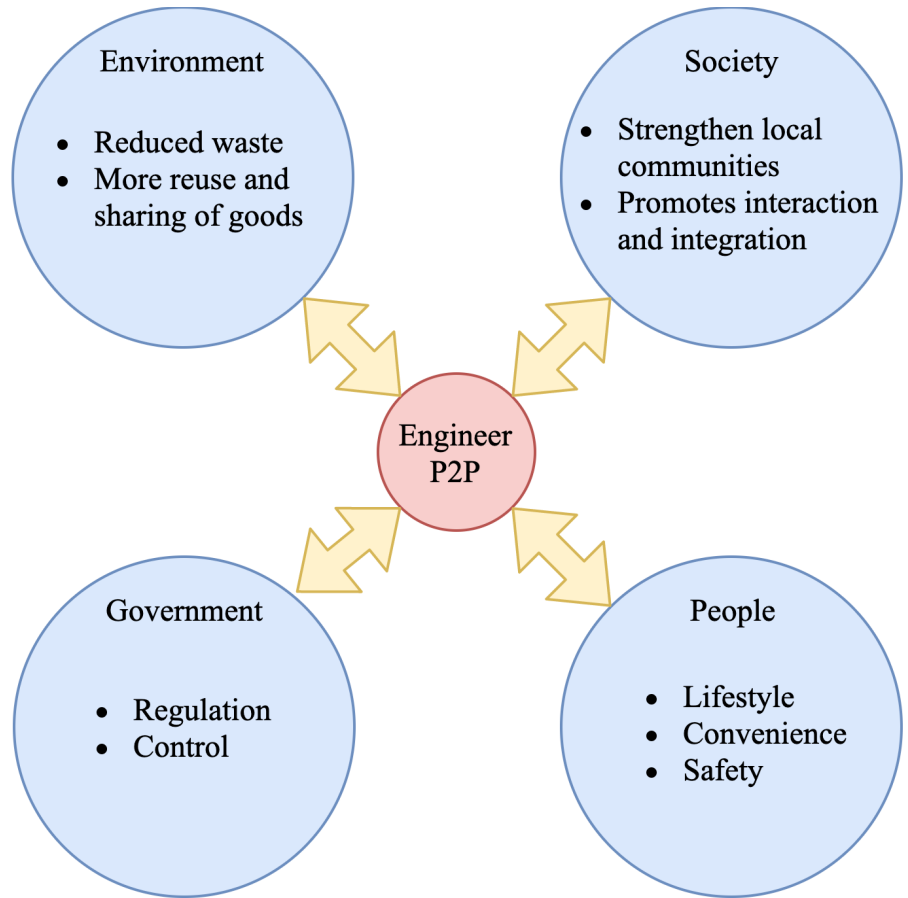


Figure 2: Peer to peer marketplace SCOT model: The Engineer in the center of the social construction must balance the interests of each group involved (Choi & Workman, 2019).

In the case of P2P markets, the most important aspects are convenience and safety. It is imperative that the engineers and designers of these services ensure that the users will not only receive an experience that is more convenient than its traditional counterpart, but that they also receive it in a safe manner. If users are not able to trust that they will be safe while participating in the market, then the market will never become a viable way to receive a specific service. For society as a whole, it is important that the engineer produces a service that helps to strengthen communities and fosters genuine social interactions. The environment will also see benefits from the rise of P2P markets as people become inclined to buy and sell used and unwanted goods instead of throwing them away. Finally, the role of government control and regulation needs to be watched carefully. One of the principles of P2P markets is to provide a decentralized way for users to interact with one another. With heavy levels of control and regulation, a P2P marketplace is no different from what society currently has in place.

Balancing the needs of the individual with society is the most important task for the engineer. If P2P markets are able to provide convenience in a safe way for individuals while promoting interaction and integration, then these markets will likely reach a steady state in our society. These are the key factors that have allowed Uber to reach a steady state as a P2P market. Riders are able to feel safe and get a convenient ride, all while meeting and talking to someone in their own car.

CONCLUSION

For all of the alienation caused by technological advancement, in particular advancements surrounding the online world, peer to peer markets poise themselves as a promising way to bring communities together and help to reverse the alienation caused by their counterparts. Alienation in society due to technological advancements is not going to be detrimental to the world in the short term. There are many benefits from these advancements that outweigh the negative externalities that they cause. That being said, these side effects should not be ignored.

If engineers can focus on true social progress as Marx suggests instead of focusing solely on increasing the efficiency of the world, then the increasing levels of alienation in society can be halted. P2P markets will continue to help engineers accomplish this goal and they will continue to rise into steady parts of society in the future. The potential that these markets have to benefit society in an abundance of ways has only just been tapped. In the coming decades, society will continue to see that P2P markets provide a way for people to achieve efficiency and decreased financial costs, all while increasing human interaction and genuine social progress along the way.

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