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Community Affair: Social Inclusion and Swapping
By
Jowanza Joseph

Abstract
Swapping has become primitive economic behavior with the advent of currency. However, with the increase in concern about the environment swapping has emerged in many forums including swap meets, free cycle and online swapping forums. We perform an exploratory investigation of this behavior through an imperial investigation of Twitter. We test the connectedness, and the popularity of people who are involved in swap meets and farmers markets. Finally, we discuss the implications and future directions for swapping.

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Introduction: Money

When we make transactions in a market, we often look at those transactions as a move that is in the best interest of both parties. We may look at it like; we are buying something we are interested in (the good), in exchange for something they are interested (money). Long before the advent and circulation of currency, these trades were a bit more complex. Exchange economies were economies where you traded for what you wanted, but the medium of exchange was not constant. If one wanted a cow, they would barter with a merchant over how much pepper the cow was worth, or how much fur the cow was worth. These economies worked, however not without a list of issues; hence this type of exchange behavior is uncommon in our economic environment. Currency, credit and electronic transmission of transactions make bartering seemingly superfluous. With the exception of a handful of forums, bartering remains a sub optimal way of making purchases. The benefits of money are many, including standardization, and ease of use (Davies 2002). In economic theory, money is defined as *fiat money* (Palgrave). It has no intrinsic value, but is used primarily as a medium of exchange. Fiat money has the following properties:

1. Unit of account
2. Store of value
3. **Medium of exchange**
The ability to have a common commodity that is exchanged across different platforms makes commerce seamless. It translates today into a global economy, where complex transactions take place in milliseconds. While money has no intrinsic value, it has value to those who use it from a physiological perspective. Even down to the color, money represents something bigger than pieces of paper we trade for goods. Money means something different to everyone, and those individual differences cause a range of expression (Mitchell and Mickel 1999). Money serves the function of cultural symbol representing dreams and aspirations.

When you go to a store and hand over a $1, it has some value that is accepted across every member of the economy. Even with this shared understanding, there are many psychological factors that contribute to the value of money. Money also has unintended consequences including it’s moving value. Currency changes value every second, and the study of exchange rates is immense.

**Bartering Economies: Swap.com**

Bartering in economic situations is as old as civilization itself. From an anthropological perspective the meaning of exchanges runs in the fibers of biological behavior (Davies 2002). Across different species, bartering is implied and consistent behavior. Bartering as an economic construct has been studied in depth and is of particular interest economist and game theorist. Studies of how information changes bartering are explored as well (Williamson and Wright
The significance of what takes on in bartering is of important to social scientist and practitioners alike.

Trading occurs on a small scale today's economic environment, and is often done as a hobby, or recreation. These trades are often good-for-good or good-for-cash. For example; trading cards, sneakers, and novelty items all fall within these categories. These trades are often behind the scenes and mostly done by subsets of an already esoteric and elite groups. These trades don't have features of any pro-social behavior. They are not redistributive; they are not reducing consumption; rather encouraging the collection of goods with little utilitarian purpose, but great hedonic value.

Online social networking has allowed for an increased ability to participate in bartering. Online social networks have been able to connect people who are from smaller subsets of a larger culture. Many people who live any combination of a slew of alternative lifestyles have been able to connect through online social networks. This is not limited to the environmentally conscious. Visit any of the popular social networking sites and there will be ample space for recycling, alternative eating and other movements. These forums allow the transmission of complex ideas across a platform that is easy to use, and makes meeting up easier.
A group of online markets have emerged with the sole purpose of uniting people interesting in trading. Among these sites, the most popular and established is *swap.com*. Swap.com allows users to log into an online database and post items that they own. They may also see items others using swap.com have and may trade for this items. No money is exchanged on swap.com\(^2\); users simply ship their item to one another and walk away from it.

In order to test this model, swap.com limits the items you can trade on its platform to books, cd’s dvd’s and video games. These items have properties that allow users to aggregate information about their values. Swap.com allows users to be notified of all the users interested in the item they own and all the items that can be traded. Swap.com also has algorithms that looks for trades to get items through 3 or more persons.

Swap.com has grown quite large, with almost 4 million members it has saved it's members $12,700,000 and has reduced their carbon footprint by 11.3 million pounds.\(^3\) This is no small measure to a business that is primarily consumer to consumer and it is a money making institution that encourages consumption reduction. Swap.com is big on community and encourages local swapping in order to reduce carbon foot printing. It is modern bartering without currency.

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\(^2\) There is a $.25 fee per trade; swap.com collects this from a credit card.

\(^3\) Figures taken from swap.com
Social Inclusion and Exclusion

The importance of feeling included in a group cannot be overstated. Human beings rely on groups for a number of important factors in their lives. Feeling included in a group has large implications for utilitarian, hedonic and emotional purposes. Many pay hundreds of thousands of dollars to be part of a country club that guarantees a pristine environment and exclusivity. Academic honors and other societies offer similar benefits; being part of a community all invested in similar pursuits. The psychological study of social inclusion has been explored in depth. Many interesting results come as a result of being socially excluded from a group, or feeling socially excluded in general (Eisenberger, Lieberman and Williams 2003, Scott et.al 2001 for examples).

Feeling included in a group, is social inclusion and the opposite is social exclusion. Social inclusion and exclusion are constructs that are seemingly
abstract, however are easily identifiable. Feeling rejected, and on the outside of a group has serious consequences for a slew of important decisions. One of the greatest findings of social exclusion research is that social exclusion impairs self-regulation (Baumeister et.al 2004). That is; the ability to regulate anger, sadness, and other emotional reactions. The effects of social exclusion have been studied in a number of contexts including social, pro-social, consumer and loyalty. Baumeister and others have found a decrease in the desire to donate to charitable funds, an increase the desire to eat unhealthy food, a reduction in intelligent thought among a number of other effects (Twenge, Baumeister, Dewall, Ciarocco, and Bartels 2007) as a result of being socially excluded. Feeling included reverses many of these behaviors.

Many neighborhoods have varying levels of social inclusion. Those with higher levels of social inclusion participate in pro-social behaviors. For example; neighborhoods with a gardening community are likely to share and practice healthy eating. Additionally, neighborhoods that start a block club in an effort to protect their community benefit from increased safety and closeness. Social inclusion helps people feel close and changes the value of goods to people. With these facts we formulate some hypotheses:

H1: Those who feel socially included will be more likely make exchanges
H2: Those who live in cities will be more likely to make exchanges.
The Endowment Effect

Owning an item changes our perception of what the item is worth (Kahneman, Knetsch and Thaler 1991). This statement formalizes years of award winning research in behavioral decision theory, and in a specialty field known as behavioral economics. The endowment effect can be broken down into what we call reference dependent prices. Economic theory posits that prices are independent of context and are the aggregation of information simultaneously gathered by a market and expressed in price. Experimental economics as a field is much invested in showing that prices are indeed reference independent. Since the publishing of the aforementioned paper, there is little debate about prices being reference dependent any longer. A slew of research in psychology, economics, and behavioral decision theory among others has shown a long list of contexts that prices are reference dependent.

In one study, subjects were endowed with wines and given basic information about the wines origin and then encouraged to trade these wines in a controlled environment. Researchers found that the endowment effect was present in these trades (Dijk and Knippenberg 1998). This study shows that the endowment effect takes places when prices are not even involved. We aggregate some perceived value of an object based on informational cues. This would suggest that in markets like swap.com where users are in control of what
they trade they will trade alone the lines of the value of that item. Social inclusion increases pro-social behavior, hence should decrease the endowment effect in this case.

We develop two more hypotheses:

H3: Social inclusion decreases the impact of the endowment effect

H4: The necessity for similarity will be erased by social inclusion

Model

Due to limitations in experimental access, we limit our study to answering the question of the connectivity of socially included persons. However, we provide theoretical background and a model for both questions and all four hypotheses. First, from an anthropological perspective, the creation of money creates a natural dichotomy between people and their goods. Since goods are no longer exchanged for goods, money is a hard, personality stripped item resulting in hard and personality stripped exchanges (Perry and Bloch 1989). The opposite is true of exchanges of the barter variety. Hence, we will test that connectedness of people who engaged in swapping markets
We also surmise that social inclusion moderates the endowment effect. That is; in trading situations the greater feeling of social exclusion; the less endowment effect will be present.
Social Inclusion via Twitter

We look to show through a study on a vast social networking platform that those engaging in swap meets and farmers market are well connected and live in dense metropolitan areas. We choose these two markets for several reasons. The first reason was because we cannot gather data on online swapping forums. Many attempts to gather data from swap.com were futile so we took to markets that were closely related. Swap meets have the property of pro-social behavior in the sense that many of the items there are sold below market price and many are part of movements including sustainability, green and alternative lifestyle movements.4

Subjects:

Subjects were a pool of twitter users who used the hash tags “#swapmeet or #farmersmarket”5 We selected these tags over the period of 1month to control for seasonal effects. We reported on a day later in the sequence to control for any early season excitement. It is noted that summer time results in dramatic increases in farmers markets as produce availability is large, additionally these effects may have some variance in areas that are more temperate and have farmers markets with more frequency than other areas. This method insures we get a sample representative of the United States. We did not remove any

4 These movements are subjective.
5 Hash tags are a way to file information in twitter. A twitter user will use the pound symbol attached to a word and that comment will join a feed of users in twitter who have used the same tag.
respondents given the large sample; we expect that any unexpected variance will be accounted for by the large sample size.

**Method:**

We were provided datasets from *InfoChimp* an online database that sells data. This data set included hashtags used on twitter over the course of a week and is rich. We used NodeXL to gather information about how information about social these hashtags and create graphics of each users connectedness. We also used some data mining through Twitter’s API and some nifty programming via *Python* to gather necessary data.

**Results:**

Our results were consistent with our hypothesis. People who used the *farmersmarket* and *swapmeet* hash tags used mobile devices, and had a surplus of 10% of those tweets being shared (retweeted). We have included a few graphs that show the relationships of these hash tags, pictures and explanations are included:
Figure 2 – Stream Graph of the *swapmeet* hashtag

We looked at stream graphs which is an analysis of words that are associated with the tag in twitter. The X-axis has dates, and the Y-axis counts the number of mentions of that word. During the time we ran this study, there were few words associated this hash tag, see the below analysis for a richer graph.
Figure 3 – Stream Graph of the farmersmarket hashtag

This stream is similar to the one above. We see a lot more activity over the past few days. The activity on the farmer's market hashtag focuses on locality, the market and the freshness of the food which are unsurprising.

Figure 4 – Source of Tweets for the swapmeet hashtag
This graph shows us the sources of tweets using the *swapmeet* hash tag. It is evident that mobile web is a popular way to disseminate these tweets. It is also noteworthy to mention the wide array of places messages were transmitted from.

![Tweets vs. Retweets Chart](image)

**Figure 5 – Tweets vs. Retweets for the *swapmeet* hashtag**

*Retweeting* is a feature of twitter that allows users to pass along messages created by other users. Of 500 tweets taken from a stream, 10% of them were retweeted. This is a large number of tweets\(^6\), and indicates activity of people using this tag is high. Sharing of tweets is important in the potential virality of an idea, and are typically started with thought leaders.\(^7\)

\(^6\) Based on Klout.com an online site attempting to quantify the influence of people on twitter.

\(^7\) Thought leaders is an idea developed for social networking data sites like klout.com. Thought leaders are people who get their content shared often.
Figure 6 – Venn diagram for both hashtags

This graph contains the tweets for 1 day of both hash tags, and unique words used in both cases. There are not any shared phrases or words in this case. Given that both farmers markets and swap meets are attended by many of the same people, this is slightly surprising. However, the graph below offers a more detail analysis.
This graph shows us common terms that are included with the *farmersmarket* and *swapmeet* hashtags. It offers an interesting visualization of the ideas that are in alignment with these tags. Toward the center words like *family*, *happy* and *downtown* begin to be shared. Toward the outsides, there are more pragmatic terms.

**General Results**

We found that social inclusion increases the desire to participate in a redistribution type market. We find this to be robust across platforms as investigated through a social networking site (Twitter). These findings are in alignment with research on pro-social behavior, which suggests that pro-social behavior is influenced by social inclusion. An important distinction is that redistribution is not always a pro-social behavior. In many cases, people attempt
to game the system of redistribution markets and earn more than they trade for.
Looking at how geographic location influences behavior in these markets has
many implications for not only policy makers, but for practitioners as well. We
find that feeling included in a social group has impact on how others view goods
and the exchange of goods. This finding extends beyond the interpersonal
relationships of individuals, to a more anthropological finding.

**Limitations & Future Research**

This research is mostly exploratory; in that it sheds light on an interesting
phenomenon, that of swapping or redistribution through trade. We were limited
in exploring this due to limitations of social inclusion and exclusion manipulations;
we were unable to explore a direct mechanism for this linkage. Psychological
experiments aimed at teasing apart how social exclusion deters people from
participating in a redistribution market are a clear direction for researchers.

Researchers should also explore larger ramifications of these redistribution
markets from a socioeconomic, psychological, and game theoretical perspective.
These markets have the ability to change the way we consume goods, and
change the lifecycle of goods. Redistribution markets have largely been
stigmatized as a socialist phenomenon, however in today’s world; these markets
have been created by entrepreneurs, with the goal of financially empowering
people. Exploring these markets and their capabilities for good in the lives of the poor and otherwise disadvantage would be of great value.

We wanted to explore directly swap.com’s data, in order to get the richest and largest source of data. However, after sending several letters and emails we were unable to obtain data. We hope in the future to be able to explore the relationships and factors that contribute to this specific market. We believe that much external validity can come from a field study of swap.com.

**Implications & Conclusion**

There is growing concern for the environment and finding ways to cut down on pollution and wasteful use of goods. Swapping redistribution markets emphasize the *reuse* element of the, *reduce, reuse and recycle* model. In a consumer climate where over-consumption is acceptable, finding mechanisms to reduce that consumption can be hard and intrusive. Swapping markets have successfully become the “pro-business” alternative to seemingly overbearing methods. These markets are full of people who come from a heterogeneous population, people who enjoy trading. Overwhelmingly, these people are from metropolitan areas, and engage in many community events. Policy encouraging participation in community events can reinforce good behavior in encouraging swapping.

Swapping is not the answer to long term environmental concerns; however it is a step in the right direction. Reducing consumption through ways that are
asymmetrically paternalistic can have lasting impact on the reduction of overconsumption. These markets show that reducing consumption can be a positive utility gain for all involved.

Notes:
Some of the graphics contain explicit language, we were unable to control the content mined from twitter. Additionally, any errors are that of the authors. A field study is pending.
References


