Community-Based Resource Sharing in Southeastern Michigan

A Research Report for A2Share and the Dow Sustainability Fellows Program, University of Michigan

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I. Executive Summary

“We belong to a bundle of life. We say, ‘A person is a person through other people.’
…I am human because I belong, I participate, I share.” – Desmond Tutu

In many developed countries like the United States, the drive for wealth accumulation and a more individualized consumption of goods and services has largely contributed to environmental degradation and climate change (Thøgersen, 2014), economic inequality (Alderson & Nielson, 2002), and a decline in social capital (Putnam, 1995). Community-based resource sharing, which includes both formal and informal sharing of physical resources, services, and skills, has the potential to decrease aggregate levels of consumption (Botsman & Rodgers, 2001), while improving social equity and helping us live within our ecological means (Cooper & Timmer, 2015).

This report highlights research findings and recommendations to encourage sharing within communities. A community survey (n = 274), guided by key informant interviews with local sharing organization leaders, was distributed to five communities in Southeastern Michigan to better understand the benefits, challenges, and opportunities for community-based resource sharing.

Key Findings from the survey include:

- Motivations for community-based resource sharing fall into three broad categories: 1) instrumental goals; 2) social interaction; and 3) global impact
- Barriers to engaging with local sharing economies include: 1) convenience; 2) contact with neighbors; and 3) community support
- Sharing is correlated with an increase in: 1) pro-environmental; and 2) pro-social behaviors

To encourage sharing within communities, these research findings are applied to the areas of urban and informational design.

Urban design strategies establish physical spaces and infrastructure that can promote activities that meet a community’s needs. Our recommendations include:

- Placing sharing sites close to established community centers and organizing the layout of resources in a facility to make sharing more convenient.
- When hosting activities tied to sharing, creating sharing facilities with open floor plans that bring people into a central space to encourage personal contact.
- Promoting enjoyable social interactions and producing an aesthetically inspiring sharing space through effective daylighting and incorporation of the landscape.

Informational design strategies can provide an efficient and cost-effective way to support community sharing through online inventories of resource-sharing opportunities. Recommendations for structuring sharing websites include:

- Organizing information into clearly labelled categories that match users’ mental models.
- Positioning important information so that users can easily determine salient information when skimming a page.
- Clearly defining next steps for engagement through visually distinct Calls to Action, paired with preemptive answers to common concerns about sharing.
Sharing our planet’s finite resources can help us reduce our environmental impact, improve our social well-being, and create a more equitable future. The recommendations presented here are meant to offer local governments and sharing organizations the tools needed to generate lasting interest and engagement in resource sharing opportunities, for the benefit of individual well-being, social capital, and environmental sustainability.

II. Individualized Consumption and its Effects

Over the past century, developed and developing countries have been moving toward a social structure that is focused on material well-being and the individualization of goods and services. While the economic growth to support these trends has lifted many people out of poverty and helped to meet people’s basic needs, the overconsumption of natural resources and burning of fossil fuels to meet our growing material demands has led to environmental degradation and climate change (IPCC, 2013; Thøgersen, 2014), economic inequality (Alderson & Nielson, 2002; Piketty & Saez, 2014), and decreasing social capital (Putnam, 1995). Many of the environmental and social consequences of overconsumption are evident in the United States, where an individualistic culture has become the norm after many decades of growth-focused policies (Canto, 1983) and the marketing of consumption-driven lifestyles (Botsman & Rodgers, 2011).

The U.S. comprises only 5% of the global population, but consumes 25% of fossil fuels used worldwide (Worldwatch Institute, 2015). In addition, we throw out about 250 million tons of trash in the U.S. each year (United States Environmental Protection Agency, 2012). There are many individual and contextual factors that contribute to the relatively recent norm of highly individualized consumption, including policies, advancements in technology, and the accumulation of wealth. However, it is now evident that this norm is not sustainable (Thøgersen, 2014). Moreover, our continued economic growth and increasing consumption of resources do not benefit everyone equally. In the U.S., although the economy has continued to grow since the 1970s, the rate of poverty has remained stagnant (Irwin, 2014). Our trend toward materialism and individualized consumption is also affecting our collective well-being on a broader scale, in the form of reduced social capital and community engagement (Putnam, 1995).

Our individual and household activities directly and indirectly account for an increasing percentage of our impact on the environment (Thøgersen, 2014). Therefore, it could be argued that sustainability is at least in part dependent on our ability to reduce our individual and collective rates of consumption by sharing resources. We will need to consume less to not only mitigate climate change and leave adequate resources for future generations, but also to ensure that each one of us now living can meet our most basic needs. Reaching this goal will require a transition to a new way of thinking about how we consume resources, and perhaps more importantly, how we share them.

III. Community-Based Resource Sharing: Transitioning to a New Normal

Community-based resource sharing, commonly referred to as the ‘sharing economy,’ is an alternative to the hyper-individualized consumption that has become the norm in developed nations like the U.S. The sharing economy is centered around the notion of reducing personal consumption and waste by using an already existing capacity of goods and services. Sharing economies include peer-to-peer
sharing of physical resources like cars, household goods, and living and work space, but can also include non-tangible items like services, time, and skills (Botsman & Rogers, 2011).

Three main elements of the sharing economy include 1) Product Service Systems, wherein products and services are shared between individuals; 2) Redistribution Markets, wherein used goods are sold, traded, or given away for free; and 3) Collaborative Lifestyles, whereby non-tangible items like time and skills are exchanged (Botsman & Rogers, 2011).

While the sharing economy has the potential to offer a new pathway to sustainability (Heinrichs, 2013), it is not inherently sustainable (Cooper & Timmer, 2015). Often, the term “sharing economy” may be used by corporations that do little to go beyond business-as-usual (Botsman & Rodgers, 2011). Sustainable sharing initiatives can be characterized by their ability to 1) help people live within ecological means by reducing material throughput; 2) enhance resilience and climate adaptation; 3) protect and restore natural systems; 4) advance equity and social inclusion; 5) support local economies; and 6) advance quality of life through social connections (Cooper & Timmer, 2015).

Community-based resource sharing, therefore, is defined by its ability to meet these goals. This concept also ties into the notion of “sustainable consumption,” which can be defined as, “the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations.” (Oslo Roundtable on Sustainable Production and Consumption, 1994) The primary goal of sustainable consumption can be stated as the use of available resources in an equitable way to enhance the quality of life of communities, while reducing our impact on the environment and allowing future generations to maintain the same quality of life that we enjoy today.

Community-based resource sharing is a transition to a new normal, where individuals own and use less resources, share the resources they have or need with other members of their community, and functionally shift how they think about consuming goods and services. The success of this transition relies on normalizing the now-radical, but once mainstream idea of sharing with others in one’s place-based community, whether that be one’s family, neighborhood, town, religious institution, or social circles.

Community-based resource sharing has the potential to: 1) reduce a city’s ecological footprint through reductions in material throughput and waste; 2) create jobs and entrepreneurial opportunities for residents; 3) improve interpersonal connection and social capital; and 4) shift society’s value of acquiring material wealth, thus improving individual mental health and well-being (Cooper & Timmer, 2015). It also has the potential to drastically alter our relationships to each other, the things that we use on an everyday basis, and the planet we depend on for survival.

There are many examples of community-based resource sharing and these opportunities can manifest in many different ways. For example, in Ann Arbor, MI, there are numerous thrift stores, food co-ops, housing co-ops, co-working facilities, food banks, little free libraries, makerspaces, re-skilling workshops, rideshares, and a new city-wide bikeshare program (A2Share, n.d.). Movements like these are both inspiring and offer a glimpse of how community-based resource sharing can become the new normal in communities across the country and around the world.
IV. Survey on Community-Based Resource Sharing in Southeastern Michigan

To better understand the motivations for community-based resource sharing and its effects on other behaviors, a mixed-methods survey was administered within five communities in Southeastern Michigan. Previous research has uncovered motivations for participation in the sharing economy, from the perspective of both users and providers of sharing services. While users have been found to be motivated by getting things they need conveniently and making social connections, providers may be motivated more by improving communities or creating a better world (Bellotti et al., 2015). This survey set out to highlight the motivations for participation in the local sharing economy, and to understand if these motivations lead to an increase in sharing behaviors within one’s community. In addition, one of the main goals of this research was to measure potential spillover effects to more general pro-environmental or pro-social behaviors, including finding ways to avoid waste, decreasing the amount of things one buys, and improving one’s community.

a. Methods:

Five cities and towns, each with different physical layouts, densities, and demographic makeups, were included in the sample so as to provide a comparison of sharing behaviors across different types of communities. The target areas included Ann Arbor, Chelsea, Dexter, Ypsilanti, and Detroit. First, interviews were conducted with eleven individuals from sharing organizations within the five targeted communities, in order to get a sense of the motivations for and barriers to community-based sharing from the perspective of service providers. These providers came from a range of organizations that included reuse centers, collaborative workspaces, and TimeBanks, as well as more traditional skill and time-sharing groups like senior centers and Rotary Clubs.

These interviews were used to inform a larger community survey that was distributed to members of various local sharing organizations within the five communities. To obtain a representative sample that varied in age, employment status, and income level, seniors from the target communities and students from the University of Michigan were also included in the sample. As the survey was largely administered over the internet via the organizations’ social networks, responses were also gathered from other cities and rural communities in Southeastern Michigan. Paper surveys were also administered to those who did not have access to a computer. In total, 274 individuals participated in the survey (see Appendix B; Table 1).

b. Results:

Respondents were asked about how frequently they pursue different types of sharing behaviors, including borrowing, lending, buying used, and sharing skills or time. The most common sharing behaviors listed among the sample include: 1) donating used items; 2) sharing skills or expertise with others; 3) volunteering or exchanging time; 4) lending things to other people; and 5) buying used items (see full list and means in Appendix B; Table 2).

Factor analysis of the survey results showed three main motivational categories for community-based resource sharing: 1) Instrumental Needs; 2) Social Interactions; and 3) Global Impact. Instrumental motivations include saving money, acquiring things conveniently, and being effective at accomplishing
tasks without buying things. Social motivations include interacting with other people, building relationships, and being connected to the community. Global or big-picture motivations include reducing environmental impact, being more sustainable in one’s actions, and making the world a better place (see full analysis in Appendix B; Table 3).

Each of these motivations was shown to have a positive correlation with increased sharing behaviors, which was measured by the mean the sharing behaviors included in the survey. This relationship was found after controlling for gender, age, employment status, household income, location, and type of neighborhood. While all three motivations were found to be significant, social interactions had the greatest impact on sharing behaviors (Table 1).

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Δ $r^2$</th>
<th>B</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
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<tr>
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<td>.119</td>
<td>2.372</td>
<td>*</td>
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<tr>
<td>Social</td>
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<td>.150</td>
<td>3.618</td>
<td>***</td>
</tr>
<tr>
<td>Global</td>
<td>.200</td>
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Predictors: Gender, Age, Location, Length of Residence, Neighborhood Type, Employment Status, Income, Motivations
Dependent Variable: Mean Sharing Behaviors
*p<.05
**p<.01
***p<.001

The effect of sharing on spillover behaviors was also measured. Factor analysis uncovered two different types of spillover behaviors, categorized as pro-environmental and pro-social behaviors. Pro-environmental behaviors included decreasing the amount of things one buys, finding ways to avoid waste, and using things past their normal life. Pro-social behaviors, on the other hand, included improving the well-being of others and taking action to improve one’s community (see Appendix B; Table 4).

Results from this survey show that there is significant spillover from sharing behaviors to pro-environmental behaviors. Instrumental and global-impact motivations for sharing were also positively correlated with an increase in pro-environmental behaviors. While motivations for sharing account for a large percent of the variance in pro-environmental behaviors, sharing behaviors themselves are also significantly correlated with an overall increase (Table 2).
Table 2. Linear Regression of Pro-Environmental Behaviors

<table>
<thead>
<tr>
<th>Predictors</th>
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<th>B</th>
<th>t</th>
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<tbody>
<tr>
<td>Background Variables:</td>
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<td>Motivation Categories:</td>
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<tr>
<td>Instrumental</td>
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<tr>
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<tr>
<td>Global</td>
<td>.464</td>
<td>.476</td>
<td>8.402</td>
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<tr>
<td>Mean Sharing Behaviors</td>
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<td>.466</td>
<td>5.099</td>
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<td>Total $r^2$</td>
<td>.594</td>
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</table>

Predictors: Gender, Age, Location, Neighborhood Type, Employment Status, Income, Motivations, Sharing Behaviors
Dependent Variable: Mean Pro-Environmental Behaviors
*p<.05
**p<.01
***p<.001

Similarly, sharing behaviors, along with social and big-picture motivations for sharing, were found to be significantly correlated with an increase pro-social behaviors (Table 3).

Table 3. Linear Regression of Pro-Social Behaviors

<table>
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<tr>
<th>Predictors</th>
<th>Δ $r^2$</th>
<th>B</th>
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<th>Sig.</th>
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<tr>
<td>Background Variables:</td>
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<td>Motivation Categories:</td>
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<tr>
<td>Mean Sharing Behaviors</td>
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<td>3.112</td>
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<td>Total $r^2$</td>
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</tbody>
</table>

Predictors: Gender, Age, Location, Neighborhood Type, Employment Status, Income, Motivations, Sharing Behaviors
Dependent Variable: Mean Pro-Social Behaviors
*p<.05
**p<.01
***p<.001

Common barriers to engaging in community-based resource sharing were also uncovered in this survey. The most often cited ways to improve sharing within the community included: 1) convenience; 2) contact with neighbors; 3) community support for sharing; 4) fun and enjoyable ways to share; and 5) trust in community members (see Appendix B; Table 5).
c. Discussion:

The strong correlation between each of the motivations for sharing and actual sharing behaviors suggests that several types of motivations, both intrinsic and extrinsic, may be important for fostering community-based resource sharing. These motivations likely depend on the individual the unmet needs of that individual (Maslow, 1954). However, social interaction was found to be the strongest predictor of sharing behaviors. This finding matches prior research that demonstrates the importance of a social component in motivating sharing among community members (Bellotti et al., 2015) and suggests that organizations may seek to highlight this characteristic of sharing above instrumental and big-picture motivations.

To motivate resource sharing among a wide range of community members, organizations should focus on meeting multiple needs at once, or tailoring services to meet the needs of different individuals. For example, a reuse center may advertise the convenience and money-saving benefits of secondhand shopping, while also highlighting the opportunity to interact with other community members while at the reuse center, in addition to making an impact on both the community, by keeping money in the local economy, and the natural environment, by keeping goods out of the waste stream.

At least four principles have been found to be important to the success of the sharing economy, including 1) Critical Mass, or enough momentum for the sharing economy to become self-sustaining; 2) Idling Capacity, or the available potential of unused goods and services; 3) Belief in the Commons, those resources that are available for public use; and 4) Trust Between Strangers, or the comfort in interacting directly with other people without the presence of a “middleman” (Botsman & Rogers, 2011). While there is a prevalence of critical mass (as evidenced by the rapidly increasing participation in the “new” sharing economy) and an existing idling capacity (there is an overabundance of goods in developed countries like the U.S.), belief in the commons and trust between strangers still need to be addressed for the sharing economy to become commonplace in our consumer-driven society (Botsman & Rodgers, 2011). The barriers addressed in this survey likewise indicate that community support for sharing, trust between community members, and contact with neighbors are factors that need to be addressed in order to foster community-based resource sharing.

It is interesting to note that type of neighborhood does not have an effect on sharing behaviors. This suggests that there is both a need and an opportunity to improve access to sharing opportunities in urban, suburban, and rural areas alike. What’s also promising to note is the potential spillover from sharing behaviors to pro-environmental and pro-social behaviors. These findings suggest that sharing behaviors may have a larger impact on how we relate to one another and the environment, and may impact sustainable lifestyle attitudes and behaviors outside the realm of resource sharing.

d. Limitations and Conclusion:

Because a convenience sample was used for this study, the sharing behaviors and motivations for sharing that were observed may not accurately represent the national or global community. Future studies would benefit from selecting respondents from multiple communities in different parts of the U.S. and beyond, and also including a broader range of age groups and diverse individuals.
Regardless, these findings have many implications for how local governments and community sharing organizations can improve engagement in community-based resource sharing. These opportunities span from how cities are designed to how information is presented to the public.

V. Urban Design Strategies to Promote Sharing

The promotion of sharing behaviors and engagement with opportunities for community-based resource sharing can be influenced through the use of urban design and architecture. The impact of urban design and architecture can profoundly transform the way in which a community interacts. Urban design seeks to address issues on the civic level and implement community wide strategies that provide lasting solutions. Urban design strategies look at how a community functions at both the neighborhood level as well as how it works as part of a larger network. Urban design seeks to discover the needs of a community and establish the physical space and infrastructure that will promote activities that meet these needs. Examples of urban design can range from redeveloping a streetscape with lights trees and benches, to designing the layout of an entire city. The success of any one urban design solution is difficult to predict, however, due to the unique problems being addressed. Culture plays a major role in how people interact and use public space. The best solutions draw from precedents where similar strategies are practiced in alike cultures. There are communities throughout the world that have begun to modify their urban fabric to reflect the community’s engagement in sharing. Two prominent sharing cities that have enacted solutions at the city-wide level are Amsterdam, The Netherlands and Seoul, Korea.

a. Precedents:

Amsterdam’s initiation into the modern realm of community-based resource sharing started with the bringing-together of multiple nonprofits on the city level and engaging with neighborhood leadership, which plays a major role in connecting community members with one another. Local involvement has been successful due to the efforts of community ambassadors, which have worked with their neighbors to build smaller sharing networks based around their commitment to community.

The steps to build and design a local sharing economy rely heavily on creating density and a means of engagement to bring all members of the community together. The best strategies to create effective sharing among members of a community have proven that local engagement among neighbors is the jumping-off platform for building a successful sharing infrastructure. For example, Amsterdam is building a series of shared spaces that will encourage engagement and allow for the flexibility to experiment with the different means of promoting sharing. “Its local business community is already strongly networked, and its compactness lends itself to neighborhood-based initiatives” (Miller, 2015). These places are being referred to as “playgrounds” which are essentially communal spaces that have the ability to hold resources in one location for the surrounding community. These concept sharing centers are also being developed in Seoul, Korea, where each site ranges in the types of resources available. One such sharing site is referred to as a tool library, where one can borrow a wide range of hand tools to be used for repairs, household work, or even producing goods (Johnson, 2014). These spaces create a central location where the resources can be stored and distributed based on where they are needed in the community. These sharing centers can greatly range in size based on the amount resources that are available for people to use. A centralized sharing site can not only lend
credibility, but also an increased level of convenience, contact, community support, and trust, as shown in the Seoul model.

The location, design, and management of these sharing sites are instrumental to the frequency at which the community will engage with the sites and, therefore, their overall success. In order to locate themselves in an area that is convenient and visible to community members, such sharing sites should first tie into existing public institutions and services, which can further establish their credibility and augment their ability to share resources with a vast number of people. As an example, the success of establishing sharing communities in Seoul can be attributed to use of existing public infrastructure and buildings to hold meetings and house resources.

b. Sharing Space:

One of the most overlooked elements in the discussion of local sharing economies is the need to share space, a practice that has multiple benefits that go beyond sharing the cost of rent. A majority of buildings are designed and used for one type of program, which results in numerous spaces or the entire building being underutilized for several hours throughout the day. There is potential for underutilized space specifically in public buildings to be used by organizations who cannot afford to purchase and maintain a building on their own. The sharing of space has spawned several successful ideas, such as Detroit’s Ponyride, which is a collaborative working space in the heart of the city. Individuals and their businesses can become members of Ponyride, which gives them access to shared spaces and resources. The overall cost is split between multiple individuals and businesses, which is not only cost effective but also brings together a diverse range of skills that can be shared. The variety of skilled individuals in places like Ponyride creates unique opportunities for collaboration across different fields and disciplines. These work-sharing environments reduce the resources that would have been consumed if these organizations were all housed in separate facilities. This same strategy could be implemented into the design of sharing facilities, where a wide variety of resources and activities can take place in one space so as to fully utilize the built structure.

c. Population Size and Density:

Each community will require a different approach based on the population density and availability of sharing resources. For example, rural communities with smaller populations and low density would have fewer sharing centers. In addition, the distance between sharing centers would increase in areas of lower density since each center needs to serve enough people to remain effective and viable. In a community like Dexter, Michigan, there may be anywhere from one to three sharing centers. The population density where a sharing center is located will determine the scale of the individual facility, ranging from a staffed building with a few thousand square feet down to a self-service storage compartment of only few hundred square feet. Smaller scale sharing centers can be maintained by a neighbor since public property for such facilities are not always available at this scale. In addition to general guidelines on population density, the barriers to sharing encountered through the survey set up the criteria for producing a successful design of a sharing center.
**d. Convenience:**

Based on this project’s survey results, one of the key barriers to sharing in Southeastern Michigan is the convenience of sharing opportunities. Convenience can be characterized as the time needed to invest in order to receive sought-after resources. The factors that determine convenience have to do with the location of sharing sites relative to an individual’s residence. Another factor that influence convenience is the amount of time an individual takes to start sharing from the moment of initial interest.

The first element of designing a sharing center is to appropriately locate the site within the community and to determine an effective scale for the facility based on the demand for resources. In regard to convenience, the site selection must be in a prominent, high-traffic location and should serve the surrounding area in the range of a quarter- to a half-mile radius, which is typically within a five to ten minute walk. Ideal distances that people are willing to walk to including transit and other daily conveniences are between a quarter to half a mile. Depending on the range of services this radius of convenience could be expanded to a mile or a 20 minute walk for less frequently used services. This sized area connects the immediate neighborhood and reduces the amount of time spent traveling to and from the sharing center. If the center is along a major thoroughfare, this will also provide the additional convenience of being a location that residents would already pass on a daily basis. The key to convenience is keeping the sharing sites close to local residents because the farther sharing sites are from any resident, the less likely these sites are to be utilized. Using Ann Arbor as an example, the map below proposes sharing center locations that would most effectively reach members of the community and increase convenience. In some cases, it would even be more efficient for existing sharing organizations to collaborate and share a single location.

![Map of Proposed Sharing Site Locations for Ann Arbor, MI](image)

**Figure 1. Proposed Sharing Site Locations for Ann Arbor, MI**

To enhance convenience, the layout of a sharing center should be well organized and easy to navigate. The ReUse Center in Ann Arbor is one example of a sharing facility where the physical layout has been a key to how they have been able to successfully provide resources to the community in a convenient manner. The ReStore frequently moves around goods and separates their products based on how their
customers look for resources. Understanding the products being exchanged and the clients using the facility decreases the amount of time spent looking for resources and improves convenience. The organization of resources and the location of sharing centers are therefore essential to reducing this barrier to engagement.

e. **Information:**

The current accessibility and amount of information available about sharing opportunities is another prominent factor in preventing individuals from engaging in community-based resource sharing. The best way to create awareness of sharing opportunities in a city is to tie these resources into existing services and public places frequently used. Sharing sites can begin informally before a brick and mortar style operation is up and running. Such temporary sharing sites could be run out of something as simple as a pop-up sharing site. This allows the sharing site to be flexible and set up in a public location where it will gain more interest and promote awareness.

![Figure 2. Makerspace pop-up site in Shanghai, China](image)

As the awareness and popularity of a sharing center improves over time, the facility can be relocated to a permanent location where the facility can continue to expand. The transition from temporary to permanent sharing center has to assure that the same users will be able to locate and access these same services in its new location. The permanent location should still remain on a prominent thoroughfare in the community in order to maintain awareness and ease of access. In addition, facilities need to be clearly visible from the street with appropriately sized signage to make the facility’s purpose and location clear to all visitors.

Community-based resource sharing endeavors cover a wide array of things being shared, from goods and services to time and space. Each sharing site will be unique in its purpose to its surrounding neighborhood and that purpose should be clearly expressed when one passes by a given facility. For example if the sharing site is mostly concerned with community gardens and sharing the tools that make gardening possible, then there should be planters and produce growing in front of the facility. Showcasing the enclosed activity through outdoor activities is also an effective means for advertising the sharing site and helps reduce barriers characterized by a lack of information.
f. Personal Contact:

The lack of personal contact among neighbors and members of the community is an essential barrier to overcome in building the resilience and reducing the dependence of a community on importing resources. The contact between neighbors is also key in growing awareness and promoting involvement in the sharing community. Urban design plays the role of spawning spaces in a community where these interactions take place. Such designs promote a central location in a community, which in this case should be near an important community organization or school. Sharing sites should not try to build new civic centers, but instead build in zones of a community that are already known as public spaces.

Having more attractions, institutions, and businesses that surround a sharing center will increase the frequency at which people visit that space. The architecture of a sharing center can facilitate personal contact by allocating spaces for community events and workshops. If the proposed sharing site provides tools relevant to a makerspace (woodworking, digital fabrication, metalworking, etc.), then the sharing site should hold activities and workshops where members of the community can learn from one another. The architectural design of the facility should provide large open interiors that allow for people to meet and learn from each other. Any building on a sharing site should lend itself to adaptability as the nature of the building program and resources will change over time. The simplest design solution is to have an open floor plan with few internal walls, thus maximizing the open space. Adaptability is the key to creating interactions between people, because members of the community can adjust the space to serve a wider variety of needs in the community and create a more inclusive, adaptable environment.

![Figures 3 & 4](image). Both of these examples address the key elements of creating open and adaptable space, transparency to the outside, and achieving comfortable, multi-purpose conditions.

Another critical issue in design is to also provide places for people to linger, which includes places for people to sit outdoors, public art to enjoy, or outdoor activities that increase the amount of time people spend at a sharing center. The more time spent at a sharing center increases the likelihood of individuals coming into contact with other members of their community, thereby reaping the social benefits of sharing.
g. **Enjoyment:**

Enjoyment of sharing is an element that is often connected with the social interaction that occurs when individuals share. The design of a sharing center that would facilitate this transaction should focus on creating an interactive environment that is playful and engaging. The “playgrounds” being developed in Amsterdam, for example, establish the purpose of sharing sites to include the enjoyment involved in sharing in addition to the exchange of goods or services. The element of enjoyment can be tied to the type of additional activities and workshops that take place in a sharing center. The design of a sharing center should create communal space for these activities to take place so that individuals can work on projects they are passionate about and share that experience with others. In addition, the landscape and interior architecture of a facility can be designed to produce pleasing aesthetics, which are both enjoyable to inhabit as well as inspiring. For example, buildings that are bright and lit with natural daylight are more popular and more commonly inhabited because they improve the overall experience of inhabiting a space. This is a common practice in architectural design to provide better lighting while also creating a connection to the outdoors through the use of natural daylight. The landscape design around a facility can create enjoyment through multiple sensory aspects. The sound of water from a fountain, or the colors and smells of flowers are all very subtle elements of a design which can enhance the overall experience of sharing. Sharing centers should be more than spaces for handing off goods, but rather inhabited public spaces that attract community members and invite them to interact with one another.

h. **Conclusion:**

The role of urban design in community-based resource sharing is vast. Successful urban design strategies can help to remove physical and conceptual barriers to sharing, from an urban scale all the way down to an individual building. The action steps through design proposed here can promote many areas central to successful sharing organizations, such as convenience, accessibility to information, personal contact, and enjoyment. The urban design suggestions above are general guidelines that can be used in a wide variety of situations. Each community will have different contextual factors that influence which of the prescribed solutions will have the most impact. Similarly, information strategies will need to target the unique needs of a given community.

VI. **Information Strategies & Web Design to Promote Sharing:**

Another avenue for translating these survey findings into forms useful for local sharing organizations is through online resources. Based on a comprehensive roadmap of local sharing economies, one of the most to efficient and cost-effective ways for local governments to support sharing communities is by having a consolidated inventory of sharing resources and organizations on a publicly accessible web platform (Cooper & Timmer, 2015). Eighty-seven percent of American adults were using the internet during January 2014 (Pew Research Center, 2014) and the number continues to rise. Internet search engines are quickly becoming the primary way that people seek out information, and having an appealing and credible website is increasingly important. Thankfully, even for low-budget community organizations, the goal of a functional and engaging website is easily attainable.
The following are no-cost suggestions for website improvements, based on: 1) usability and information architecture principles; and 2) potential users’ motivations and barriers for sharing, as uncovered by the present survey. These guidelines can be applied to sharing organizations or local governments seeking to develop or improve their online sharing inventory, and they mainly revolve around condensing content into a web-friendly form consistent with how users expect to see the information. In other words: keep it simple and put users’ needs first.

Some of the primary users of resource-sharing sites include community members interested in participating in the local sharing economy. For these users, a website may be their first introduction to community-based resource sharing. Another population include leaders of sharing organizations who are looking to grow their community presence. Therefore, sharing websites should not only serve to provide opportunities for community members to participate in sharing organizations by appealing to their intrinsic motivations, educate and proactively address concerns about sharing, but also provide opportunities for community leaders to connect.

**a. Information Architecture and Usability Guidelines:**

Websites can be evaluated by their architecture, or the way in which pages are organized. Information architecture is “the structural design of shared information environments; the art and science of organizing and labeling websites, intranets, online communities, and software to support usability and findability.” (Information Architecture Institute, 2013). A site with strong information architecture displays website content and structure in a clear, easy-to-navigate way that fits users’ needs.

Determining Information architecture goes hand-in-hand with user experience goals and site content. User experience can be broken down into seven properties (Morville, 2004), and while all are important, for the goal of creating a directory of sharing resources the following three properties will be highlighted:

1. **Findability** - Are users aware of the website and can they find what they are looking for?
2. **Credibility** - Can users trust the website?
3. **Usefulness** - Does the website do what users need it to do?

The content of a website and the purpose of each page will help dictate how a site should be structured so that users can follow intuitive paths. For example, navigation pages will send users elsewhere, content pages will have useful information, and interaction pages will have forms and other media for users to interact with.

**b. Website Structure:**

![figure 5](image-url)  
*Figure 5. Shallow site architecture (waterfall-shaped) as compared to stable site architecture (pyramid-shaped).*
Good websites should have structures that are neither too shallow nor too deep, and a site diagram (a map of the pages on a website and how they connect; see examples in Appendix C) can help to quickly visualize the current state of a website (Usability.gov, n.d.). Site diagrams can be sketched out on paper and should have a pyramid shape, moving from general categories to more specific topics. The site in Figure 6 has five clear, easily understandable options for users to click on in its navigation bar, which helps newcomers to the site from becoming overwhelmed.

![Figure 6](image)

**Figure 6.** Example of a site structure that starts out broad and narrows down within each of the main categories.

Good site structure is also sustainable, meaning that a site’s layout should have enough breathing room to include new content within a section, or an entirely new section itself (Fig. 7, Usability.gov, n.d.). Starting with a small number of categories and keeping category labels broad (“Get Connected”) is the best way to go about this. Often, creating a usable website for cash-strapped organizations means making sure as little restructuring as possible has to occur. Therefore, establishing a flexible architecture means that adding and modifying content on the site will be a more sustainable process for those maintaining the website platform and sharing inventory in the future. Website maintenance can become an ongoing cost which can possibly be solved with partnerships with external organizations. For example, the city of Portland partnered with two external organizations, and another option could be to partner with sharing companies with a small staff who could help with the inventory (Cooper & Timmer, 2015).

![Figure 7](image)

**Figure 7.** Mapping out site diagrams can establish whether architecture is flexible enough to accommodate new content.

There is no one “right” way to structure a website--if your users can easily understand it, then that is a good structure. Determining this can be as simple as informally recruiting a few representative users (average people who either have used or who are likely to use your site) and sitting down with them to walk through the site. Give a few tasks to them to complete (for example: find a sharing organization...
you are interested in joining), and ask them to “talk you through” what they are thinking when completing the task. Observe where they get “stuck” and inquire when they seem to be confused. This will help you understand how users interact with and understand your website, and whether or not it is actually intuitive for them. The most effective and understandable way to structure site content revolves around how people actually think about a topic, and even a small amount of research into this can be beneficial to you as you design your site. Using mental models based on topics, tasks users would like to complete on the site, or types of users is useful in guiding users who are exploring and do not know exactly what they are looking for (Usability.gov, n.d.). When choosing a structure for a site or a section of a site, ask yourself what it is your users are on the site to do. If they are there to find out information, use a topic-based scheme. If they are there to get things done, use a task-based scheme. The example in Figure 8 has task (Explore, Discover, Learn) based primary navigation and topic-based (by geography) secondary navigation.

Figure 8. A site with task-based primary navigation and topic-based secondary navigation.

c. **Website Navigation:**

This means that making navigation intuitive and clear is critical to creating a usable site. Regardless of how complex your content is, it is important that you do not ask too much of your users--effective navigation menus must be simple, and the categorization and labeling should be intuitive for the primary users of the site. If content is grouped together in an intuitive and logical way, but the categories are labelled in an unexpected or opaque manner, then it will still be difficult to find information on your website (Idler, 2013).

Figure 9. An example of Global navigation which can be condensed down.
For example, the website in Figure 9 has 11 total items in its global navigation, and it is unclear what lies behind many of the navigational tab labels. For example, while users may expect that clicking the “Links” tab leads to a list of additional sites and resources to explore, when the “Links” tab is placed adjacent to a tab labeled “Additional Resources,” it is no longer clear what to expect. The same could be said for the items “Press” and “News,” while others such as “Free Store” and “Maps” could benefit from additional context.

This website could be restructured so that the landing page will be the sharing directory itself (e.g. as soon as people click onto the site, they see opportunities to get involved), while the global navigation would be consolidated into: “What & Why of Sharing,” “Resources and Tools,” and “Get Involved.” If there are more than 10 pages on a website, the addition of a search function is a smart move, but should not be a replacement for good navigation.

![Home > Get Involved > Blog > 2013 > Creating Cross-Channel Experiences](image)

**Figure 10.** Example of breadcrumb navigation.

As a site increases in depth, breadcrumbs (see Fig. 10) are a great design tool that can help indicate a user’s current location in a website. They clearly show where a user is, how to navigate out, and help enhance the understandability of how a site is structured. Beyond breadcrumbs, indicating the current tab in the global or local navigation (by changing background color and bolding text for differentiation) can further ensure that users do not get lost in the site. Relying solely on color for differentiation is not recommended, as it decreases the accessibility of the site to users who may be visually impaired or color blind.

Beyond findability of information on a website, good information architecture and a clear navigation system will increase the SEO (search engine optimization) that drives people to a website. SEO refers to optimizing a webpage so that it appears as high as possible on a list of search results. A page’s position in the list is partially determined by how well “web crawlers” (programs which search the web and bring information back to a master search algorithm) can understand the structure of a website. If there are clear pages for each topic and a good, branching navigational structure, it is much easier for the programs to find out information about your site. Position is also determined in part by keyword matching, so utilizing the same simple keywords in page titles, headlines, breadcrumbs, and body text which users might type in as search queries will help direct users to your site (DeGeyter, 2013). As people typically do not search in detailed, specific terms, being plain-spoken is always beneficial for searchability and usability (Nielsen, 2013).

**d. Page Layout & Content:**

Sharing organization websites should avoid directories of text-heavy or uncategorized listings that are difficult to scan through, as this type of webpage layout does not align well with how the average individual navigates websites.
People usually do not read entire webpages, but rather scan them in an F-shaped pattern (Fig. 11) (Nielsen, 2006). Readers will first scan horizontally across the top, horizontally again a little lower on the page, and then vertically scan down the left side to form a rough “F.” The average amount of time spent on a website is less than a minute, and most decisions about a web page’s value are made in the first ten seconds, after which the likelihood of clicking out of a page decreases (Nielsen, 2011). This means that the value and credibility of a website must be made clear to the reader quickly, and for text-heavy pages, important information should be placed in the top one or two paragraphs. Increasing the font size of these paragraphs can also help. Headers and subheaders should be visually distinct, and front-loaded with meaning so that users can pick up salient words on their vertical scan (Fig. 12).

Pages should draw on users’ tendencies to skim, while using strategic text to highlight relevant instrumental, social, and global motivations for sharing, especially on the “Home” or “About Us” pages. Organizations may also want to anticipate when and where users will have questions about a specific sharing opportunity and either pre-empt potential barriers through on-page help text (often in Q&A format) or through a “Frequently Asked Questions” page.

The directory as a whole or each broad category should have a landing page to orient the user to where they are and what they can do. Research findings from an online experiment conducted by IBM indicate that for content-heavy sites, subnavigation links displayed directly on a page, rather than in a drop-down menu, increased site section engagement by over 219% (Designm.ag, 2013). This is a strategy that has been pursued by other groups such as the American Marketing Association and is one that organizations creating sharing resource directories may want to consider.

For sharing organizations that have a lot of information to present, websites should ascribe to a “typical page layout” in order to improve ease of use and findability of information (Fig. 13). This
standard page composition, developed through eye-tracking studies, places common elements where users most expect to see them, based on current web design practices and adapted to cultures that read text left-to-right and top-to-bottom (Lynch & Horton, 2009). For example, “Contact Us” information should typically be placed in the footer, where people are more likely to find or search for it.

There are several aspects of credibility to consider when creating website content. One of the most critical pertains to the presence of information that is relevant to the needs of the user. A site moderator of a sharing resources directory should goes through and periodically removes broken links or links to websites which do not fit the mission of the website. The more disreputable sites are linked to, the lower the perceived credibility a website tends to have (Fogg, 2006). Any sharing organization’s website should also have clear contact information and should ideally be approved by an outside agency (popular organizations like Shareable or Center for a New American Dream, a local news agency, or the local government) (Fogg, 2006).

### e. Calls to Action:

A Call to Action is an imperative to the user that is meant to stimulate a response; it is often a visually-distinctive button, or a direct link. The goal of an organization seeking growth should be to try and funnel all current or prospective users of their site into getting connected in some way, such as subscribing to a newsletter, following the organization on social media, or donating to the site. These are best facilitated through a Call to Action, which there is more burden placed on the users to find ways to get engaged.
We recommend making Calls to Action on the website prominent through page position and some form of visual distinctiveness. The call to action pictured in Figure 14 is not only visually distinctive from the rest of the page, but also has a level of social proof (“Over 6 million active users and counting…”) and immediately addresses user concerns (“Can I see how other people use Basecamp?”). For sharing organizations, calls to action could be paired with answers to concerns about sharing.

To aid the ability of community-based sharing organizations to address the barrier of trust, it is also important to clarify: 1) how often a newsletter goes out; 2) that users’ personal data will never be shared; and that 3) users will be able to modify subscription preferences at any time. These common barriers involved with giving out personal information on the web can be quickly and easily addressed with page text, and proactively placing these disclaimers on a website will help build trust.

\[ f. \text{ Limitations and Conclusion:} \]

**User Research** - While these recommendations are based on general user experience and information architecture guidelines, it is always best to validate website design through talking with real (or representative) users of your site. What makes a website useful or which labels speak to people can only be determined through gathering their stories in some way. Interviewing site users about how they think about sharing or sitting side-by-side and having them walk through the website can reveal mismatches between what people expect from the site and what is presented, or if there are website usability issues that are blocking people from the information they want. User research can also reveal what elements of the site are attractive or credible to users, so that organizations can make those elements more prominent (Fogg, 2006).

Free website analytics can also help capture user information. Google Analytics provides the ability to conduct A/B testing, in which visitors to a site are randomly assigned to see two separate versions of a page in an experiment to see which design or page text performs better on a particular metric. A/B testing can be an easy way for organizations to see what categories/labeling schemes work better for users if there is no manpower at hand to sit and interview an actual user.

Google Analytics also has site reporting tools and Application Program Interfaces (APIs, or pre-made building blocks of code) such as Flow Visualization, which lets website managers see and analyze the path visitors take on a website, In-Page Analytics, which provides detail about how they interact with each page, and Site Search Reporting, which gives insight into what site visitors are looking for and thus how the site can improve to anticipate those needs.

**Importance of Mobile** - While the main focus of this evaluation has been on the desktop version of organization websites, the importance of mobile cannot be overstated. Mobile phone usage has been steadily climbing in America. In 2014, hours spent on mobile phones surpassed hours spent on computers, and the number has only increased in 2015 (Bosomworth, 2015). Perhaps the most resounding evidence that this is an important consideration is that Google announced in early 2015 that it would rank websites optimized for mobile web higher on search result pages (Makino, Jung, & Phan, 2015).
VII. Conclusion:

Community-based resource sharing has the potential to significantly alter how we think about consumption, as well as how much we consume as individuals and a society. Redistributing resources through a sharing economy can allow for greater economic equity, and community-based sharing can increase social capital and community interactions. These benefits are apparent in the motivations for sharing resources within our communities, whether they are instrumental, social, or global in nature. Tapping into these motivations has the potential to impact not only our own well-being, but also that of future generations.

This research on community-based resource sharing in Southeastern Michigan has uncovered that:

- Motivations for community-based resource sharing fall into three broad categories: 1) instrumental goals; 2) social interaction; and 3) global impact.
- Barriers to engaging with local sharing economies include: 1) convenience; 2) contact with neighbors; and 3) community support.
- Sharing is correlated with an increase in: 1) pro-environmental; and 2) pro-social behaviors.

To encourage sharing within communities, these research findings were applied to the areas of urban and informational design.

Urban design strategies establish physical spaces and infrastructure that can promote activities to meet a community’s needs. Recommendations based on this research include:

- Placing sharing sites close to established community centers and organizing the layout of resources in a facility to make sharing more convenient.
- Creating clear signage and a strong visual presence on the street to increase awareness.
- Promoting enjoyable social interactions and producing an aesthetically inspiring sharing space through effective daylighting and incorporation of the landscape.
Informational design strategies can provide an efficient and cost-effective way to support community sharing through online inventories of resource-sharing opportunities. Recommendations for structuring sharing websites include:

- Organizing information into clearly labelled categories that match users’ mental models.
- Positioning important information so that users can easily determine salient information when skimming a page.
- Clearly defining next steps for engagement through visually distinct Calls to Action, paired with preemptive answers to common concerns about sharing.

The recommendations within this report are meant to offer local governments and sharing organizations the tools needed to generate lasting interest and engagement in resource sharing opportunities, for the benefit of individual well-being, social connectedness, and the health of our natural environments. Current efforts in community-based resource sharing require only the dedication of individuals and local governments to make them become a reality, and are paving the way to a new normal in which we, as a society, can once again consume resources in a way that keeps us within the biophysical limits of our planet. Community-based resource sharing may be one piece of the puzzle to help us to transition into a more resilient, sustainable, and equitable future.
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Figures:

1. Diagram produced by the authors
Appendix A. Acknowledgements

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This research study was approved by the University of Michigan Institutional Review Board (Study ID: HUM00100131)
## Appendix B. Survey Data

### Table 1. Descriptive Statistics - Sample Demographics

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<tr>
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<th>Frequency of Sample</th>
<th>Percent of Sample</th>
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</thead>
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<td><strong>Gender</strong></td>
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<td>Male</td>
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<td>Female</td>
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<td>.4</td>
</tr>
<tr>
<td>Rather not say</td>
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<td>2.8</td>
</tr>
<tr>
<td><strong>Combined Annual Income</strong></td>
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<td>$15,000-$24,999</td>
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<td>8.4</td>
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<tr>
<td>$25,000-$49,999</td>
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<td>$200,000 or more</td>
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<td><strong>Primary Employment Status</strong></td>
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<tr>
<td>Self-employed</td>
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<tr>
<td>Out of work and not looking for work</td>
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<td>1.2</td>
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<tr>
<td>Student</td>
<td>83</td>
<td>33.3</td>
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<tr>
<td>Retired</td>
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<td>17.7</td>
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<tr>
<td>Rather not say</td>
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<td>.8</td>
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<td><strong>Neighborhood</strong></td>
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<td>Urban</td>
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<td>Suburban</td>
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<td>Detroit Metro</td>
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<td>Rural Southeastern Michigan</td>
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<td>5.8</td>
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### Table 2. Sharing Behaviors

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<thead>
<tr>
<th>Behavior</th>
<th>Sample Mean</th>
<th>Standard Deviation</th>
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</thead>
<tbody>
<tr>
<td>Donate used items</td>
<td>3.69</td>
<td>1.039</td>
</tr>
<tr>
<td>Share skills or expertise with others</td>
<td>3.59</td>
<td>1.052</td>
</tr>
<tr>
<td>Volunteer or exchange your time</td>
<td>3.47</td>
<td>1.210</td>
</tr>
<tr>
<td>Lend things to other people</td>
<td>3.33</td>
<td>.985</td>
</tr>
<tr>
<td>Buy used items</td>
<td>3.19</td>
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</tr>
<tr>
<td>Borrow items for free</td>
<td>2.73</td>
<td>1.070</td>
</tr>
<tr>
<td>Sell used items</td>
<td>2.29</td>
<td>1.060</td>
</tr>
<tr>
<td>Rent items from an individual or business</td>
<td>2.05</td>
<td>.857</td>
</tr>
<tr>
<td>Co-own something with others</td>
<td>1.85</td>
<td>1.123</td>
</tr>
</tbody>
</table>

Prompt: Please indicate how often you do the following in your community (on a scale of 1-5, with 1 being “Never” and 5 being “Very Frequently”)

### Table 3. Factor Analysis - Motivations for Sharing

<table>
<thead>
<tr>
<th>Motivation</th>
<th>Component 1</th>
<th>Component 2</th>
<th>Component 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting the things you need</td>
<td>.822</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saving money</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Being effective at accomplishing tasks without buying things</td>
<td>.731</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acquiring things more conveniently</td>
<td>.726</td>
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<td></td>
</tr>
<tr>
<td>Learning a better way to get the things you need</td>
<td>.683</td>
<td></td>
<td></td>
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<tr>
<td>Building relationships with others</td>
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<td></td>
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<tr>
<td>Interacting with other people</td>
<td></td>
<td>.867</td>
<td></td>
</tr>
<tr>
<td>Being more connected to your community</td>
<td></td>
<td>.811</td>
<td></td>
</tr>
<tr>
<td>Improving your skills or abilities</td>
<td></td>
<td></td>
<td>.653</td>
</tr>
<tr>
<td>Making your actions more sustainable</td>
<td></td>
<td></td>
<td>.861</td>
</tr>
<tr>
<td>Reducing your impact on the environment</td>
<td></td>
<td></td>
<td>.820</td>
</tr>
<tr>
<td>Making the world a better place</td>
<td></td>
<td></td>
<td>.720</td>
</tr>
</tbody>
</table>

**Extraction Method:** Principal Component Analysis. **Rotation Method:** Varimax with Kaiser Normalization.
Table 4. Factor Analysis - Spillover Effects

<table>
<thead>
<tr>
<th>Activity</th>
<th>Component 1</th>
<th>Component 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease the amount of things you buy</td>
<td>.856</td>
<td></td>
</tr>
<tr>
<td>Think about your personal consumption</td>
<td>.838</td>
<td></td>
</tr>
<tr>
<td>Try to use things past their normal life</td>
<td>.809</td>
<td></td>
</tr>
<tr>
<td>Find ways to avoid waste</td>
<td>.791</td>
<td></td>
</tr>
<tr>
<td>Do things that don’t rely on buying stuff</td>
<td>.764</td>
<td></td>
</tr>
<tr>
<td>Think about how your decisions will affect the environment</td>
<td>.747</td>
<td>.884</td>
</tr>
<tr>
<td>Try to improve the well-being of others</td>
<td></td>
<td>.879</td>
</tr>
<tr>
<td>Take action to improve your community</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Table 5. Barriers to Engagement

<table>
<thead>
<tr>
<th>Barrier</th>
<th>Sample Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>More convenient ways to share</td>
<td>3.91</td>
<td>1.055</td>
</tr>
<tr>
<td>Greater contact with neighbors</td>
<td>3.65</td>
<td>1.143</td>
</tr>
<tr>
<td>Increased community support for sharing</td>
<td>3.64</td>
<td>1.036</td>
</tr>
<tr>
<td>More fun or enjoyable ways to share</td>
<td>3.62</td>
<td>1.161</td>
</tr>
<tr>
<td>Greater trust in community members</td>
<td>3.29</td>
<td>1.327</td>
</tr>
<tr>
<td>More financial incentives for sharing</td>
<td>3.14</td>
<td>1.349</td>
</tr>
<tr>
<td>Increased access to transportation</td>
<td>2.78</td>
<td>1.538</td>
</tr>
</tbody>
</table>

Prompt: Please indicate whether each of the following would make you more likely to share within your community (on a scale of 1-5, with 1 being “Never” and 5 being “Very Frequently”)
Appendix C. Website Design Resources

- **Canva.org** - Headed by Guy Kawasaki, social media marketing guru, Canva.org is a great source of free templates for easy-to-make posters, social media headers, infographics, etc. They also compile design news and resources.
- **Makergoods.net** - Compilation of free design resources.
- **Slickplan.com** - 30 day free trial for easy creation of site diagrams, collaboration features and no payment information up-front.

**Directory-Specific WordPress Themes (requires payment)**

These themes are specific for directory websites and contain a lot of useful plugins in one package. While not necessary if a sharing resources directory is small, they may be useful for larger websites. Working with a knowledgeable website developer is recommended.

Search terms used: “online resource directory”

**Directory Themes**

- Ex: Directory + (AitThemes)
- GeoDirectory (plugin with extra features)
- Directory (Templatic)
- Listify
- YellowPages (By Templatic)
- Spotfinder