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Evaluating the Success of Tool-Lending Libraries and their Contributions to Community
Sustainability

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ABSTRACT

Tool Lending Libraries function much like that of a public library, offering users the chance to check out a variety of tools at no cost, as part of a membership fee or on a tool by tool fee basis, far lower than the purchase price for each tool, and below rates offered by for-profit rental agencies. This study attempts to determine what factors make a successful tool lending library and how these operations contribute to community sustainability. Findings for specific criteria were inconclusive, but suggest it is extremely difficult to isolate variables enough that insight will be provided into criteria outside of ability to serve the most tool users with the desired tools. Tool lending libraries have shown to contribute to community sustainability through criteria such as lowering economic barriers to home improvement, reduction in tool consumption, and home energy efficiency improvements. Application of findings were tentatively applied to the Lincoln 501(c)(3) EcoStores Nebraska, including a survey to EcoStores Nebraska customers addressed in the text. Further research into number of areas would be beneficial to understanding the growth trend in these operations.

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Table of Contents

ABSTRACT	1
ACKNOWLEDGEMENTS	2
INTRODUCTION	5
Varying Models	6
The Need for Tool Lending Libraries	7
LITERATURE REVIEW	8
MATERIALS & METHODS	9
Survey to Tool Lending Libraries	10
Survey to EcoStores Nebraska Customers	11
RESULTS	12
Survey to Tool Lending Libraries	12
Survey to EcoStores Nebraska Customers	14
DISCUSSION	15
What really makes a successful Tool Lending Library?	17

	4
Contributions to Community Sustainability	18
Common Problems within Tool Lending Libraries	20
EcoStores Nebraska	24
CONCLUSION	25
CITATIONS	27
APPENDICES	30
Appendix A: Rough List of Existing Tool Lending Libraries	30
Appendix B: Survey to Tool Lending Libraries	31
Appendix C: Tool Lending Library Questions 5 & 6 Coded Data	34
Appendix D: Survey to EcoStores Nebraska Customers	35
Appendix E: EcoStores Nebraska Customer Preferences	38
Appendix F: EcoStores Nebraska Customer Tool Preferences	39
Appendix G: West Seattle Sample Liability Waiver	40
Appendix H: Tool Lending Library Questions 2 & 7 Responses	42
Appendix I: Modified Local Tools Tool Lending Library Map	43

INTRODUCTION

It seems that everyone's dad has a garage or shed full of seldom used tools. Instead of being actively used and maintained these tools often spend the vast majority of their lives collecting dust and rust, sometimes only yielding a few uses. It was projected that Americans would spend \$14.3 billion in 2011 on power and hand-tools alone (Reliable Plant). For a society relies on a bevy of increasingly ingenious and sophisticated tools, they are used in a very unintelligent fashion. Through an alternative sharing model however, tools can used efficiently, reducing space and costs while improving access to tools for all.

Different from tool rental agencies in their not for profit nature, Tool Lending Libraries are not new conceptions with the Columbus Tool Library opened in 1976, as confirmed by library personnel Stephanie Blessing (personal communication, June 11, 2013). But the increase in growth of new operations in recent years has been staggering as the trend has often been paired with an increasing public interest in sustainable living. Though far from the standard lexicon, Tool Lending Libraries (TLLs) have been featured in environmentally themed publications such as Grist and Mother Earth News, gaining prominence in said community. TLLs function much like traditional libraries, lending out various tools much like a public library lends books, or tapes and cassettes. Some library branches have even combined efforts, offering limited tool rentals in affiliation with a local TLL (How to Start a Tool Library).

With the recent increase in TLLs, the question arises as to the effect of these operations, what contributes to their success or lack of and whether they truly elicit community

sustainability. Such sustainability can be achieved through meeting present community needs while ensuring adequate ecological resources and a healthy environment to meet the needs of the future. The need is to frame said community as an actor within the global sphere. This thesis will analyze what makes a successful tool lending library and if they contribute to community sustainability.

Varying Models

TLLs encompass the gamut of model structures in regards to size, affiliation, fees and tools offered. Depending upon circumstances, TLLs can vary between tens to thousands of users, with some operating on a membership fee basis while others offer only tool to tool loans. Most TLLs have some affiliation with a non-profit entity or have incorporated as one themselves, an important differentiation between a tool rental agency or business. Others have an affiliation through the public sector, sometimes through a public library or as a project funded by the city or county government. Costs to users also vary widely within TLL. Some are able to offer completely free services, while others survive as fee based programs that have yearly membership, per day or per tool rental or other fees based upon late fees and other sources of income.

Almost all operations have sought other sources of startup funding, whether it be grants, specific project funding from a foundation or other sources. Items offered also vary greatly, but often have commonalities in offering some form of home improvement/renovation tools, as well as specializing in certain areas such as art supplies or home gardening, depending

upon size, donations, and populations targeted. Staffing, population size and need play critical roles in determining how a TLL is structured and may succeed or fail.

The Need for TLLs

TLLs are created for many common purposes and serve a wide variety of needs. These needs have been found to include home improvement, and neighborhood redevelopment, home gardening and food sovereignty, socioeconomic mobility and overall need to impart knowledge, skills and general access to tools.

In a number of cases TLLs have begun in direct result to rebuild and revitalize neighborhoods affected by natural disasters. While normally thought of as just tool lending platforms, many TLLs have diversified to offer additional community services like workshops, imparting expertise and knowledge upon a larger community.

If TLLs do prove to be beneficial to communities, then the question arises as to implementing an operation in proximity to oneself if there is not yet one in existence. For this reason, an application of a TLL in Lincoln, Nebraska will be carried out within this study using the 501(c)(3) *EcoStores Nebraska*, operating through resale of used building materials and other items, as preliminary location for the TLL. Reference will also be made to Community CROPS, the Lincoln Bike Kitchen, and NeighborWorks Lincoln.

With a continued increase in nation wealth inequity, a growing movement toward self-reliance, and an increase in the frequency of severe weather events as possible manifestations of global climate change, TLLs are uniquely positioned to address all of these occurrences,

albeit to different degrees (How to Start a Tool Library). Often located in poorer economic areas, many TLL founders have shown awareness and intentional action on these fronts, striving to cater tools specifically to sustainable living and at times shunning gas-powered tools (Portland's Neighborhood Tool Sharing Libraries). Similar to aforementioned Lincoln, Nebraska organizations Community CROPS, a non-profit providing immigrants, low-income and youth community members opportunities to grow their own food, workshops and training for aspiring farmers, and the Bike Kitchen, another non-profit allowing community members opportunities to learn bike repair skills and build their own bike through volunteer hours, TLLs have the opportunity to cater services to address economic, social and environmental problems.

LITERATURE REVIEW

Academic literature specifically on this topic is near absent, but a variety of alternative sources proved very helpful in better grasping the direction of study and appreciating the nuances of operations. The Center for a New American Dream's *How to Start a Tool Library* webinar proved instrumental in understanding the realities of a TLL operation, providing case studies of four successful TLLs, with moderation and advice from their founders. This was supplemented by five informal interviews conducted with TLL personnel around the country, with each helping expand the perspective of what a TLL is and how it functions. These interviews assisted in uncovering the specificity of each operation and exposing the difficulty of applying questions that retain relevance to each site.

Graduate projects by Chiang, Gee and Kozak addressed different elements of the planning stages behind a TLL or other community project. Kozak's work, *Open Source City: A*

Proposal for A City Tool Shop, in particular focused on a similar potential TLL application and troubleshoot many of the same criteria as the Center for a New American Dream webinar, while addressing finer points of a potential operation and potential connections within.

A number of other works assisted in bringing a broader perspective into the project. These also served as reference for community action, organizing, library systems amongst other applications.

MATERIALS & METHODS

To begin exploring TLLs, a table of all known operations within the United States and Canada was created to identify relative numbers and reaches of operations (Appendix A). This was difficult to accomplish with absolute certainty due to the high number of recently opened TLLs. However, using the localtools.org map listing, a reasonably complete list was compiled and combined with other TLLs discovered (Local Tools). From here exploratory emails were sent to many TLLs in hopes of finding personnel willing to help craft this study towards relevant details and find questions worth asking. In examining and preparing questions to posit to TLLs, it quickly became apparent through conducting five short exploratory interviews, including one site visit, that each operation, though possibly similar to another by structure, history or operation, was so inherently different from the next that it would be difficult if not impossible to craft restrictive questions that would yield detailed, relevant answers that could be applied to a new or existing operation outright. Due to this, the survey was modified to include both qualitative and quantitative questions. Much of the preliminary research was taken from the conversations had with TLL members, as academic research addressing TLLs more than in

passing was extremely limited. Reference was also taken from any websites, interviews, videos, webinars and other publications that specified details about operations.

A second survey, targeting customers of EcoStores Nebraska, and Lincoln residents was later undertaken to help cater preferences and identify the target population of a possible TLL operation for Lincoln, NE. The methodology is discussed below.

Survey to Tool Lending Libraries

It became apparent that an ideal survey to TLLs would need to be less specific than previously conceived and qualitative questions may work better to capture the specificity of each operation. A survey was created using the SurveyMonkey platform (Appendix B). Within this survey respondents were asked some demographic information about their TLL's operation and history, as well as their experiences and motivations for being part of their TLL. It should be noted that TLL members with a decision making role or founding role were targeted due to their enhanced knowledge of program history and motivations.

Respondents were invited to participate through previous correspondence and given open invitation through the National Tool Library Google Group, an open discussion platform of prospective and practicing TLL personnel, acknowledged in an interview with a TLL founder. TLL personnel were also encouraged to contact any other TLL contacts they knew that may be interested in completing the survey. Due to the highly specific and limited number of respondents, snowball sampling had to be used to identify key personnel within a finite number of operations. Though not an ideal survey methodology, it was imperative to connect with the

specific population being targeted. Through these means 14 responses were collected, comprising almost 1/3 of known operations within the US and Canada (Appendix A.

Open-ended responses were either coded for key words and themes or left as such, depending upon range of responses and specificity to their situations. Some liberties were taken during this process to adequately identify trends encompassed in a variety of language that pertained direct to the coded criteria (Appendix C).

Survey to EcoStores Nebraska Customers

As will be discussed later, the application of information gathered through this project was under the proposition that it would eventually be used to explore the possibility of creating a TLL in Lincoln, Nebraska. EcoStores Nebraska (<http://www.ecostoresne.org/>), a Lincoln non-profit selling donated building materials and other items at reduced prices, was consulted from the beginning of this project as to how a TLL would potentially begin at their site or another in Lincoln. Through discussions with EcoStores Manager Craig Steward and Communications and Marketing Director Christine Hunt, as well as previous interviews with TLL personnel, it became known that it is imperative to know the intended population when opening a TLL. With this in mind, a survey designated for EcoStores customers and potential TLL users was devised to capture both demographic information and personal preferences for operation policies and desired tools. This survey was distributed on site at EcoStores Nebraska and through their online communications. The results and collection of data for this survey are ongoing, and will continue to be gathered to better target Lincoln Residents.

RESULTS

Survey to Tool Lending Libraries

A total of 14 responses were received from TLLs in ten states and one Canadian Province. As previously mention this comprises almost 1/3 of known TLLs within the US and Canada (Appendix A). As hoped, respondents represented a combination of founder, program directors and other key personnel with intimate knowledge of each operation.

One of the most telling items gleaned from the demographic information was the youth of most operations surveyed. Though existing within a wide range of values, with the oldest operation surveyed beginning in 1978 and the newest in 2013, the vast majority of the 14 TLLs were less than 10 years old. In fact only 2 of the 14 were in existence prior to 2005, with the median year of establishment between 2008 and 2009, and the mean of about 2005 (Appendix H). TLL funding was shown to rely on a multitude of different methods for sustaining operations financially. The data showed that 11 of 14 respondents employed more than one method of covering costs, while grant and donations led in frequency with 11 of 14 operations.

Membership and other fees also tallied 10 out of the 14 respondents. The other option yielded additional revenue sources not listed in the survey in overdue fees, workshops, site visits, fundraising, city contracts, tool sales, and sponsorships.

Confirming the non for profit nature of the operations, all respondents designated that their operations were 501(c)(3) non-profits or were sponsored projects of another organization,

with many indicating that they received funding from a non-profit, governmental organization or neighborhood association.

Responses for question five *What was the reason for beginning the operation?* Were coded into 6 different criteria (Appendix C) based upon response trends. Respondents provided 0 to 3 codeable variables with a very even distribution in frequency with each response receiving 3 or 4 respondents citing the criteria, with a total of 21 values coded (Appendix C).

Responses from question six *How would you define your conception of success within your organization?* were also coded for 7 different variables (Appendix C) based on response content. Respondents provided 1 to 3 criteria each totaling 25 total criteria values. Within this question, *Rate of Use* received 11 out a possible 14 values (78.6%) or 44% (11/25) of overall total responses, with only 3 respondents electing not to include it into their conception of success language. In comparison, the next two most frequently cited criteria *Availability of Desired Tools* and *Financial Stability* only were included from 4 of the 14 respondents respectively.

Respondent's own perceptions of operational success were consistently high, with a range of five to ten on a 1 to 10 scale, a median value of 8 and a mean value of 8.21. Questions 8 through 10 were not coded for criteria due to the wide variance of responses (Appendix B). Questions did yield some trends with question 7 citing ability to lend out a large number of tools to a growing population of users, as well as beneficial community interactions and empowerment of residents. Question 8 *What do you feel have been the three most successful elements of your operation?* had multiple respondents cite organization and

volunteers as issues encountered amongst a myriad of other more case specific issues.

Question 10 *Briefly, what have been some of the major differences between your initial expectations and the realities you've encountered in this project?* also yielded common responses in regards to the speeds and abundance of donations and misperceptions about the sheer amount of work required to support a TLL. Question 9 *What have been the three least successful, or failed elements of your organization?* yielded a wide variance of answers, but few that could be coded or linked together.

Survey to EcoStores Nebraska Customers

A total of 70 responses were gathered from 55 online respondents through SurveyMonkey and 15 in-store paper surveys collected at EcoStores Nebraska (Appendix D). Demographic information indicated at 2:1 female to male respondent ratio, with relatively even age and income ranges (Appendix E).

Inquiry into desired length of time for tool rentals yielded a preference for one week rentals, with some comments warning of potential difficulties with longer loans. Preference for lending lengths that varied by tool yield the next highest value with 30%, half of one week rentals (Appendix E).

Responses for fee structure preferences were diverse but favored per tool fees rather than annual or one time larger fees. Inquiry into organizations to contact yielded 21 different responses, with all receiving a frequency of one response outside of Community CROPS and the Lincoln Bike Kitchen, which received 4 and 3 suggestions respectively.

While the donations question did not yield a large quantity of responses, the question *What type of tools, specific or not, would you benefit from having available in a program like*

this? drew 196 suggestions for specific tools to offer with some drawing a frequency of twelve. Numerous tool category types were also identified in the process (Appendix F)

DISCUSSION

In the manner of what makes a successful tool library, many respondents cited providing appropriate tools to the largest number of users possible as one of the tenets of what makes a successful tool lending operation. In providing this service many expanded upon the effects of these actions and their potential for a variety of effective social change, both within the survey and interviews conducted prior. Many TLLs are established in part for purposes of urban renewal, with many establishing themselves in poor neighborhoods with lower relative neighborhoods or a history of blight. This makes sense for a number of reasons, one being the ability to remove economic barriers in gaining access to tools amongst populations that are likely more fiscally constrained than counterparts from more affluent areas. These areas may also be more open or assisted by lending services such as seed lending or lending of gardening tools or other tools for growing food or sustainable living practices that may again reduce costs for more fiscally constrained populations. Another benefit of establishing TLLs in lower socioeconomic areas is the reduced property values that make rent more affordable or may provide free access for worthy operations to vacant or underutilized properties.

This is of course not a flawless strategy, as poorer areas are more likely to have lower resident ownership rates, thus reducing the incentive and possibly ability to use tools to improve their own homes and add sweat equity to their residences. Thus placing TLLs in neighborhoods with higher ownership rates of occupants may yield more demand for home-improvement tools compared to a lower ownership neighborhood, in a static setting. The

concept of social mobility through sweat equity into one's own property was mentioned in preliminary interviews with TLL personnel, demonstrating a deep level of thought and greater intentions within their operations. Many of the TLL personnel encountered in this project display deeper intentions to improve their communities, better the lives of others, and create positive social change, like Baltimore Station North Tool Library Founder John Shea (personal communication, June 14, 2013). These are important considerations when reviewing findings and designing future surveys. In many ways responses integrated, measuring similar phenomena, in some ways, with criteria melding elements of straightforward operations based items, with implied, or explicit demonstrations of awareness of the social ramifications or intentions of their operations.

Additionally other TLLs were established or utilized to assist in neighborhood recovery after natural disasters (Corser and Gore). Both New Orleans and Cedar Rapids have in part used TLLs to assist in these efforts, with each area being devastated by flooding, something Matthew 25 Founder Courtney Ball experienced firsthand (personal communication, June 20, 2013). These operations dovetailed nicely with a major increase in need for tools and an increase in availability of funds to feed library operations, not to make light of the difficulty of the respective situations. Coupled with a significant growth in TLL operations, the trend to invest residents of disadvantaged areas in their own success through facilitative operations like TLLs and first time homeowner programs is strengthening and evolving the potential of grassroots organizing and citizen community action in both the US and with similar indications of such abroad (Alamillo and Diaz). TLLs in this study and others encountered have received a variety of support from community foundations, community development block grants, neighborhood

associations, neighborhood associations, local libraries and governments, religious institutions and other community and governmental facets (New American Dream Webinar). With an increase in unequal distribution of wealth favoring the wealthiest elite, and distributed totals that rank second in greatest income inequality between the top 10% and bottom 90% for well off countries, it could be argued that TLL operations, and others like it are needed to lend a hand to populations at the low end of the very slanted wealth spectrum (Domhoff).

Another trend towards an access-based society appears to be brewing as well, with younger generations recording reduced values associated with the ownership of material goods (Rifkin). TLLs can be lumped into the emergence of other elements of what has been called a sharing society, whether it be music, highly profitable urban services like ZipCar, free item trade networks like Freecycle or Yerdle, hours banks, exchanges in which volunteers can gain assistance and expertise on a project in return for helping on another, or increases in fundamental practices of our society like the increases seen in distributed energy generation (Newman and Bartels).

As more TLL operations emerge, the amount of case studies will continue to build and assist in providing supporting examples and living laboratories for prospective TLLs to utilize. Documents, such as liability forms, can assist in negotiating some of these issues for new operations. Additionally TLL starter kits from the Center for the New American Dream and Share|Starter use collective experiences from successful TLLs to assist prospective TLL founders in negotiating the process, making all considerations and building the foundations of success operations (Share|Starter).

What really makes a successful Tool Lending Library?

Almost all of the responses received on conceptions of success could be categorized as manifestations of good practices, just as the reach of social issues could be perceived as manifestations of access to tools. Within this it was not entirely possible to determine any single criteria that made a TLL successful as success was allowed to be defined by the respondents. While this yielded some commonalities, it also relied upon opinion of many different minds in many differing situations and places in the history of the operations. Problems occurred as respondents answered in varying degrees of length and number of criteria, sometimes citing direct or long-term effect of their project and in between. Using a sliding 1-10 scale of success also appeared arbitrary when attempting to cross-compare operations.

Longevity of the operation was also a significant factor when attempt to assess TLL in the study, but was difficult to apply due to the youth of so many of these operations. Further research, and a much more specifically defined scope, would be needed to fully decide a list of criteria that did or did not make a good TLL scientifically, though from responses received, the need to provide desired tools in high quantities to all of those targeted is the quintessential element of a successful TLL, as defined in this study. However, much could be taken from another study targeting the socioeconomic and environmental ramifications of their efforts to loan tools specifically. By negating the criteria coded as usage rate in this study, and exploring and possibly asking respondents to rank intended consequences of tool lending, interesting data could be derived as to the similarities and differences in the nature and mission of TLLs.

Contributions to Community Sustainability

Specific impacts on community sustainability would again be better answered with further study, as no specific question addressed the conception but numerous responses addressed the topic. However a number of items arose from prior interviews and survey responses to their reasons for starting their respective TLL and conception of success that included elements of sustainability in one form or another. These included community building and improvement (in various forms), urban gardening, reductions in tools purchased, repair and reuse of existing tools, improved energy efficiency of residences, lending sustainable living tools, and the desire to make the community more sustainable, a criteria which was mentioned outright.

Examining a few of these for impact on community sustainability, the most straightforward example would be the diversion of tools purchased by local residents that may not see more than a few uses. Within these libraries, popular tools are used until they break and cannot be repaired, thus maximizing their lifespan and minimizing the number purchased when shared amongst users. In these settings tools can also be maintained better when a dedicated tool specialized is involved, further elongating the life of these items. The reduced consumption and subsequently reduced entropy aids in resource conservation and what could be termed sustainability.

Items encouraging gardening and sustainable living also contribute to reduction of items needing to be purchased and shipped, as well as a somewhat implied reduction of chemical additives needed in the production of these foodstuffs. Combinations of seed lending and canning supplies could ideally provide significant food resources to residences across much of the year if properly utilized. Other sustainable living materials, such as manual lawnmowers,

reduce fossil fuel emissions directly, as they do not require any non-human energy input, once again reducing consumption all the way back down the supply chain.

Improving energy efficiency of residences was surprisingly sparsely mentioned within this study, as buildings account for roughly 2/5ths of US energy consumption. Even small reductions in energy consumption from residence to residence could have a large net effect, especially within the community. One rather unique TLL, the Pacific Energy Center Tool Lending Library offers measurement equipment free of charge (Saez et al). This demands costly, more specific items that would likely not be received in donations and requires a working knowledge of the field, partially explaining the lack of TLL emphasis in this area.

It could certainly be argued that TLLs contribute community sustainability, meeting present community needs while ensuring adequate ecological resources and a healthy environment to meet the needs of the future of said community as an actor within the global sphere. Reduced consumption of tools and entropy, the construction of strong communities that avoid redevelopment and environmentally costly reconstruction, as well as a sharing community that respects the joint ownership of many are all potential outcomes facilitated by an effective TLL. All these criteria would be better served with further research into their true effects and potential for change in these areas. A study into the net effects of a particular operation would be highly beneficial in quantifying the impact, something that is unknown at the present and would almost undoubtedly vary widely between TLLs.

Common Problems within Tool Lending Libraries

One aspect that made interviews with TLL founders and discussions with EcoStores personnel so valuable was the ability to troubleshoot problems and address concerns.

The elephant in the TLL room when looking into starting an operation is liability. Loaning out tools with the potential to maim or injure is always a risk, but through indemnity or liability forms this risk can be reduced, while still having potential for legal action from affected parties. These forms can be found on most TLL websites and modified to meet specific needs, but it has been recommended that legal advice be given on this form (Share|Starter) (Appendix H). Accidents do happen, as two separate libraries reported patrons losing fingers, though those injured did not pursuing legal recourse for their injuries (How to Start a Tool Library). Many affiliated operations take out an insurance policy or modify their existing policy to include liability concerns over any tool related injuries and their operations. One promising note expressed by many was the lack of desire for legal recourse of any of the known cases of patrons injuring themselves. In most cases patrons were stated to have understood the good of the operation and did not feel the TLLs were responsible for the occurrence of the injury in any way (How to Start a Tool Library).

Need for volunteers and the overall effort needed to run a TLL is another issue that often arises within operations, with some operations placing great strain on a few dedicated volunteers to keep the operation up and running (Portland's Neighborhood Tool Sharing Libraries). This was mentioned as well in the responses to question 10 regarding realities versus expectations of a TLL. It is easy to get excited about the prospect of an operation, but the lower operating costs and sheer labor needed to catalog, stock, repair and solicit tools is significant and requires a number of dedicated, knowledgeable and skilled volunteers.

Although not something that arises inherently, the notion of runaway success and popularity of a TLL can cause major problems. Growing very quickly or having to change

functions abruptly can strain an operation. Not only does an increase in popularity mean more tool loans and labor, but it restricts user's access to tools if availability is backed up.

Additionally, operations often outgrow their current space quickly, necessitating either a major change or period of stagnation in which a TLL is constrained in its offerings, not by the amount of tools but the ability to safely store them. In fact, many operations start out of a garage or basement and quickly find demand for their services. Another common slipup within these operations could be vaguely described as a *sophomore slump*, or inability to immediately follow initial success. This is due to a number of reasons. With time to plan ahead and fundraise, operations will receive the bulk of their funding and media attention at the onset, painting a rosy picture of what the future may hold. However, funding may run out from certain grants or foundation donations, and making the system financially stable as the operation continues to grow and demand increases is difficult. This is especially so with the need to embark upon finding new funds, while simultaneously running the operation. These reasons are why some operations advise to minimize advertising and embrace slow growth, at least until the organization is at a place in which it is ready to grow and does not have limiting factors, whether they be human or material resources impeding the transition, something expressed by Santa Rosa Founder Dustin Zuckerman (personal communication, June 21, 2013). This also allows those customers serviced to receive a better lending experience, hopefully with limited waits on tools and speak highly of the operation to any new members gleaned. Preventing unanticipated fluxes in operations also reduces onsets of founder's syndrome by limiting the necessity to make drastic change and mitigating any potential disagreements between key personnel.

Financially, TLLs want to offer their services at as low a cost as possible, but also desire to be financially self-sustaining as seen in the survey results. While some operations are free and funded by a variety of grants and donations, many libraries have embraced a yearly membership model. This can be beneficial much like a Community Supported Agriculture (CSA) may be for a small farmer. Instead of receiving funding after providing the service, be it rental fees per tool or other, organizations are able to receive funding upfront and have more flexibility to buy infrastructure to support their operation at fewer junctures. This financial certainty can provide the operation more flexibility to meet customer needs with finances more concrete. Many TLLs as embrace a model that factors in income level to its fees, establishing lower rates for lower income customers to make the expense more proportional in their overall income when compared to higher income customers. No matter the income model chosen, financial solvency is something TLLs often struggle through after conception.

Though somewhat intuitive, determining the intent of a TLL and what populations are trying to be served is essential in completing intended outcomes. Again this means knowing the populations, as a high renter area may be better served by gardening and sustainable living tools rather than home improvement and power tools. Soliciting community feedback and preferences is important in finding a middle ground that effectively caters to expectations but grounds itself in the realities of what is achievable.

One final issue that is often encountered within TLLs is the tendency to form in and out groups of users and potential users. TLLs naturally elicit connections to social and at times political causes which may dissuade the interest of certain populations of potential users. One way around this is viewing the operation as a service, much like a standard library, devoid of

connections to cause that may attract more of a dominant community but ostracize others from potentially joining (Dustin Zuckerman, personal communication, June 21, 2013). Providing good services to the users of that operation thus becomes even more important as members of new populations of users enter the fray and may recommend or speak against the TLL to those within their sphere of influence (John Shea, personal communication, June 14, 2013).

EcoStores Nebraska

The survey distributed digitally and at EcoStores Nebraska yielded valuable data in tool preferences and demographic information of respondents. Additionally it reaffirmed some of the organizations that it would be beneficial to discuss the project with. These organizations, including NeighborWorks Lincoln, Community CROPS and the Bike Kitchen will likely have valuable experience within the city of Lincoln, Nebraska, and may be able assist in move the project forward and creating mutually beneficial relationships going forward. In the next step it will be imperative to continue the survey at other locations around Lincoln, possibly with the distinction of the survey's place of origin, as well as additional questions regarding respondent's likelihood to use the library at different price structures and willingness to drive different distances around the city.

Again contacting existing Lincoln neighborhood associations, institutions that work with said communities such as the aforementioned Community CROPS and NeighborWorks Lincoln, should be high priorities in aligning goals and realities, as well as exploring ways in which our missions may converge to benefit specific populations and the Lincoln Community as a whole. Once more information is known it will also be beneficial to devise a second survey to address more unknowns, amongst them desired preferences for hours of availability, more specificity

regarding tools, and more solidified requests for volunteers and avenues for potential involvement. This project is still in its infancy and will be open to many considerations at this juncture, including exploration of alternative or auxiliary sites. Communications with EcoStores Nebraska will continue as more information is gathered and details solidified.

CONCLUSION

Through initial interviews and the distribution of surveys to key personnel in existing TLLs, this study was able to identify some factors that contribute to perceived success of TLLs. While it was found that most operations in part judge their success upon the abundance of their tool lending, the findings also categorized some more socially or environmentally suggestive criteria for gauging success. The findings more than strongly hinted that there were also additional success criteria that were underlain in some of the answers received. Based on these findings it seems this survey may have been much too basal in the way certain questions were phrased and asked, indicating that respondents may be interpreting and responding on different levels to overly ambiguous questions, such as that relating to their definition of success within their operation. With this study being done in a real world laboratory, it would be necessary to attempt to further isolate variables and select very similar operations to find supposed criteria of success. Doing this may be constrained by the relatively small sample size of operations in existence. However, more discussions with TLL personnel and more basic surveys and inquiries into how to better explore both motivations of personnel and details of each operation, may be able to move closer to some type of rough formula for a well running TLL.

For the community sustainability portion of this study, criteria were found within a variety of question responses indicating specific contributions to elements of sustainable living, reduced consumption of tools through sharing, as well as improved maintenance of said tools, potentials for increased residential energy efficiency, and strengthening of communities. The next logical step would be make some attempt to garner the net impact of TLL efforts. This would likely best be done in parts to begin with, starting with quantification of the reduction of tools purchased and averted resource and pollutant costs. Again this would only be the first step of many and would be specific to each library, as type and quantity of loans vary significantly between TLLs.

Regarding the application of this project to a Lincoln location, many invaluable lessons were learned, and though not yet formulaic would contribute to a smoother process establishing a TLL in Lincoln or any other location. For reasons including space, connection of building materials and goods, demonstrated success and similar missions, EcoStores Nebraska still appears to be the most promising locations for an application of a TLL in Lincoln, Nebraska. As previously mentioned, additional data collection, including new queries will be valuable in collecting as much data as possible through means of additional surveys as well as more open casual town hall style information sessions and discussions. In these stages the importance of presenting to others in established groups will be critical in drawing upon their opinions and expertise. With funding, labor, liability and structural decisions still major challenges, steps in the process need to be taken cautiously as to prevent missteps that could delay the project substantially. However, the prospect of creating a Lincoln, Nebraska TLL could benefit greatly from the aid of pioneering operations and organizations cataloging the efforts of said TLLs.

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APPENDICES

Appendix A: Rough List of Existing Tool Lending Libraries

State	City	Name
AZ	Globe	Globe, AZ Tool Lending Library
AZ	Phoenix	Phoenix Tool Shed – Phoenix AZ
CO	Boulder	ReSource Tool Library
CO	Colorado Springs	One Voice Toolbox
CA	Berkeley	Berkeley Public Library's Tool Lending Library
CA	Oakland	Oakland Public Library's Temescal Tool Lending Library
CA	San Francisco	San Francisco Tool Lending Center
CA	Santa Clara	Silicon Valley Power Tool Lending Library (energy-related only)
CA	Santa Rosa	Santa Rosa Tool Library
CA	Loma Linda	Loma Linda Redevelopment Agency's Tool Lending Library
GA	Atlanta	Atlanta Community ToolBank
IL	Bloomington/Normal	The Tool Library
IA	Cedar Rapids	Matthew 25 Tool Library
IA	Dubuque	Washington Tool Library
IA	Des Moines	Greater Des Moines Habitat for Humanity Tool Lending Library
KS	Wichita	Community Housing Services of Wichita/Sedgwick County's Tool Lending Library

LA	New Orleans	New Orleans Tool Lending Library (Non-profits & Churches only)
MD	Mount Rainier	Mount Rainier Community Tool Shed - City of Mount Rainier tool library
MD	Baltimore	Station North Tool Library - City of Baltimore tool library
MA	Roxbury	BYEN Tool Library
MA	Northfield	Northfield Tool Lending Library
MI	Ann Arbor	Ann Arbor District Library (energy meter only)
MI	Grosse Pointe	Grosse Pointe Public Library and the Grosse Pointe Rotary Club's Tool Library
MO	Kansas City	Westside Housing Organization's Tool Lending Library
MO	Springfield	Urban Neighborhood Alliance – ToolBox
MT	Missoula	Missoula Urban Demonstration Project (MUD) Tool Library
NE	Omaha	North Omaha Tool Library
NM	Santa Fe	Santa Fe Habitat for Humanity ReStore Tool Lending Library
NY	Buffalo	University Heights Tool Library
NY	Rochester	Corn Hill Neighbors Association's Tool Library
NY	New York City	Tool Lending Library

OH	Columbus	Rebuilding Together Central Ohio Tool Library
OR	Portland	North Portland Tool Library
OR	Portland	Hands on Greater Portland (only non-profits can borrow tools)
OR	Portland	Northeast Portland Tool Library
OR	Portland	Southeast Portland Tool Library
OR	Portland	Green Lents Community Tool Library
PA	Philadelphia	West Philly Tool Library
TX	Austin	Tool Shack
UT	Orem	City of Orem Tool Lending Library
UT	Orem	Habitat for Humanity of Utah County
VT	Burlington	Fletcher Free Library
WA	Seattle	Phinney Neighborhood Association's Tool Lending Library
WA	Seattle	The West Seattle Tool Library
WA	Seattle	Northeast Seattle Tool Library

Appendix B: Survey to Tool Lending Libraries

1. Please list your name, organization affiliated with and your role within the organization.

Name:

Organization:

Role within the

organization:

2. When was the organization established?

3. How has the organization been funded?

- Grants
- Donations
- Membership/Rental or other fees and charges
- Project funding from an existing organization
- Other (please specify)

4. Are you affiliated with another organization, and have you incorporated as a Non-Profit?

Yes

No

Affiliated? *Are you affiliated with another organization, and have you incorporated as a Non-Profit?
Affiliated? Yes

Affiliated? No

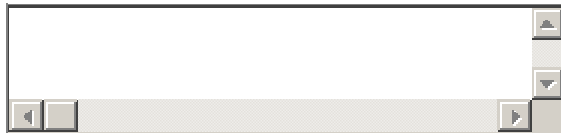
Are you a Non-Profit?

Are you a Non-Profit? Yes

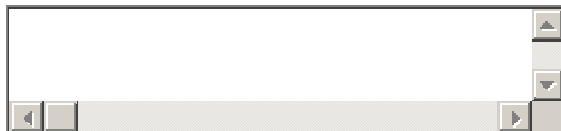
Are you a Non-Profit? No

Please add any specification 

5. What was the reason for beginning the operation?



6. How would you define your conception of success within your organization?



7. On a 1-10 scale, how successful would you say your organization has been (1 being the lowest level of success and 10 being the greatest)?

1

2

3

4

5

6

7

8

9

10

8. What do you feel have been the three most successful elements of your operation?

9. What have been the three least successful, or failed elements of your organization?

10. Briefly, what have been some of the major differences between your initial expectations and the realities you've encountered in this project?

Appendix C: Tool Lending Library Questions 5 & 6 Coded Data

Question 5: <i>What was the reason for beginning the operation</i>	
Code	Frequency of Response
Tool Access	4
Community Building	4
Desire for a TLL	4
Sustainability	3
Sharing	3
Redevelopment	3

Question 6: <i>How would you define your conception of success within your organization?</i>	
Code	Frequency of Response
Rate of Use	11
Availability of Desired Tools	4
Financial Stability	3
Community Building	2
Community Penetration	1
Sustainability	1
Media Coverage	1

Appendix D: Survey to EcoStores Nebraska Customers

1. A tool-lending library functions much like a regular library, lending out tools that may not be practical to own or use for just one occasion. For a minimal fee, users are able to gain access to tools they may not have previously been able to use, increasing possible projects and savings.

(Please feel free to choose not answer any questions you do not wish to, Thanks!)

What type of tools, specific or not, would you benefit from having available in a program like this?

2. What length of time would you prefer for an average tool rental time, keeping in mind longer lending times would mean less tool availability for yourself and others?

- 1 Week
- 2 Weeks
- 3 Weeks
- Varies per tool

Other (please specify)

3. What kind of fee(s) would you prefer to pay to be a tool user?

- Rental fee per tool
- Rental fee per tool & per day

- Yearly rental fee
- Family yearly rental fee (only those 18yrs or older are allowed to rent)
- Lifetime membership fee
- Fees paid through volunteer hours
- Fees paid through tool donations

Other (please specify)

4. Would you be willing to donate tool(s)? If so, what tool(s)?

5. Would you you be willing to volunteer with this project? If so, for approximately how many hours a week or month?

6. Are there any community groups or organizations that would have input or be interested in discussing this project (please include contact info if possible)?

7. Gender

- Female

Male

8. Age Range

18-37

38 -55

55+

9. Annual Personal or Household Income Range

Less than \$30,000

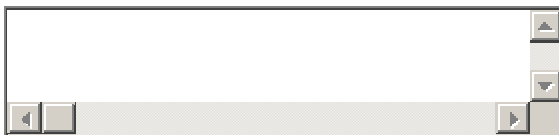
\$30,000-\$45,000

\$45,001-\$65,000

\$65,001-\$85,000

\$85,000+

10. Please add any additional comments, or suggestions regarding this project. Thanks!



Individual:	# Hits
Tile Saw	12
Sander	12
Power Washer	9
Table Saw	8
Nail Gun	8
Saws	8
Post Hole Digger	7
Miter Saw	7
Reciprocating Saw	7
Ladder	7
Air Compressor	7
Tiller	6
Routers	5
Chainsaw	5
Jack Hammer	4
Portable Scaffolding	4
Paint Sprayer	4
Auger	4
Hammer Drill	3
Circular Saw	3
Wheelbarrow	3
Aerator	2
Mulcher	2
Welder	2
Hand Drills	2
Car Jacks	2
Lawn Edger	2
Drywall Lift	2
Log Splitter	2
Concrete Grinder	2
Trailer	2
Concrete Mixer	2
Trencher	2

Drill Press	2
Shopvac	1
Fertilizer Spreader	1
Power saw	1
Carpet Cleaner	1
Angle Grinder	1
Brazing Torch	1
Sewing Machine	1
Adhesive Scraper	1
Cutter	1
Drywall Jacks	1
Sewer Line Router	1
Vehicle Ramps	1
Industrial Heaters	1
Shovels	1
Sledge Hammer	1
Branch Clippers	1
Wrenches	1
Lathe	1
Chop Saw	1
Band Saw (hahahaha)	1
Ceiling Sprayer	1
Overhead Beam Lifts	1
Dremel Saw	1
Leaf Blower	1
Polesaw	1
Bobcat	1
DUMP TRUCK!!!!	1
Cherry Picker	1
Seeder	1
Surface Planer	1
Concrete Saw	1
Bench Grinder	1
Mower	1
Hammer	1
Drill	1
Air Tools	1
Stapler	1
Total	196

Tool Category	# Hits
Power	7
Carpentry	5
Gardening	4
Auto	3
Yard Work	2
Plumbing	1
Electrical	1
Home Remodeling	1
Welding	1
Metal Fabrication	1
Digging Equipment	1
Floor Laying	1

Appendix F: EcoStores

Nebraska Customer Tool

Preferences

Appendix G: West Seattle Sample Liability Waiver

Sample Liability Waiver

The tools in our collection are for the use of West Seattle Tool Library members. Out of respect for future users, please clean any tools you borrow before returning them and report any

damage The Tool Library immediately. Though borrowers are responsible for damage that they have caused, we promise not to be angry. If you feel compelled to return them in better condition than when you borrowed them, that would be highly appreciated.

I, _____(print name), state that I am capable and experienced in using the tools I am borrowing, and that I will use the tools I am borrowing in a proper manner.

I, _____(print name), do hereby for myself, on behalf of my successors and assigns, in consideration of being permitted to borrow tools, waive any and all claims against Sustainable West Seattle and The West Seattle Tool Library, its officers, agents, and employees for any injury or injuries of any nature that I may suffer or incur in the use of the tools that I am borrowing from The West Seattle Tool Library.

I, _____(print name), hereby for myself, on behalf of my successors and assigns, in consideration of being permitted to borrow tools, agree to release and indemnify and hold harmless Sustainable West Seattle and The West Seattle Tool Library, its officers, agents, and employees from any and all liability, loss, claims, and demands, actions or causes of action for the death or injury to any persons and for any property damage suffered or incurred by any person which arises or may arise or be occasioned in any way from the use of tools I am borrowing from the Sustainable West Seattle Tool Library. I am aware that SWS,

the SWS Tool Library, its partners, directors, officers, members, and employees claim no expertise and make no representation concerning the fitness of any tool for any particular use.

I affirm that the above information is current, true and correct and may be subject to verification. I further state that I have read and fully understand the rules and regulations of The West Seattle Tool Library and I understand that failure to comply with any of these rules may result in revocation of my borrowing privileges and/or legal action against me. I have read and signed a Waiver and Indemnification form, relinquishing any and all claims against Sustainable West Seattle, The West Seattle Tool Library, its officers, agents, and employees.

Signature _____

Date: ___/___/_____

Name (print): _____

Appendix H: Tool Lending Library Questions 2 & 7 Responses

Question 2: Year Established	Question 7: Rating Success
1978	10
1981	6
2005	9
2005	7
2008	10
2008	8
2008	7
2009	10
2010	8
2010	8
2011	10
2013	8
2013	5
2013	9

Existing TLLS Operations	
Surveyed TLL Operations	