"Challenges and Opportunities in Materials Salvage and Reuse" Survey Summary and

Next Steps

Materials Salvage and Reuse Innovation Hub

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Domicology and The Materials Salvage and Reuse Innovation Hub

The Michigan State University Domicology team studies the lifecycle of the built environment. Our team is committed to the diversion of construction and demolition (C&D) material from landfills through the efficient salvage, recycling, and reuse of these materials. Through a grant awarded by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), the MSU Domicology team has conducted research on how to best support and strengthen the salvage and reuse business sector in the state of Michigan to increase diversion of C&D waste. To determine how best to support this sector, the Domicology team developed and conducted the pioneer survey of this sector to identify their technical assistance and training needs that could best help their growth. This report describes the methods used and the findings of this business sector survey.

The MSU Domicology Team sought out the grant from EGLE due to the scale and scope of the environmental, social, and economic impacts of abandonment in the state of Michigan. In our current paradigm, buildings are built, used until the end of the structure's useful life cycle and then the structure is abandoned or demolished. In Michigan, Construction and Demolition debris accounts for 25-40% of total landfill waste. In Detroit, 36% of all commercial buildings are abandoned, and the city spends $800,000 on building demolition each year (Detroit Works Project 2012, Uberti, 2014*).* Abandonment also results in higher insurance premiums along with social fragmentation in neighborhoods heavily impacted by blight. To reduce the devastating impacts of blight, the MSU Domicology team is conducting research and promoting sustainable business practices to create a prosperous circular salvage material and reuse economy.

Context of the Study

The MSU Center for Community and Economic Development's Material Salvage and Reuse Innovation (MSRI) Hub team administered the survey, "Challenges and Opportunities in Materials Salvage and Reuse" to key stakeholders in Michigan's reuse economy. The purpose

of this survey was to learn about the businesses in the reuse sector, focusing primarily on identifying training and technical needs that might be addressed to help strengthen businesses in the sector. The team with advice and guidance from a broad stakeholder network (see Appendix A) determined the necessary training categories to include in the survey based on our ongoing conversations with businesses in the sector, the findings of our 2018 *Structural Material Reuse and Recycling Market Study*, as well as from the Pratt Area Community Council Economic Development Business Needs Assessment Survey and the Latino Economic Development Initiative; those categories were: accounting, finance, marketing, personnel, and business operations. In addition, the survey included demographic questions regarding business type, size, location, and questions about their customer base and acquisition. Survey questions can be viewed in Appendix B.

For the study, we targeted five categories within the Salvage and Reuse Business sector. The first category is Upcycle and Repurposing. These are businesses that acquire salvaged materials and new product from the material such as furniture or repurposing and upgrading architectural elements and fixtures. These practices can be seen largely as a form of reuse but are distinguished from other groups for their added value. Another category is Reuse As-is which includes antiques, architectural salvage, building materials resale, and appliances and furnishings. The Recycling business category includes any business that takes in any variety of building materials for recycling purposes. Our fourth category was Demolition, Deconstruction, and Salvage businesses which includes businesses that deconstruct structures for the purposes of saving and reusing the salvaged materials and also businesses that work in demolition where the material goes to a landfill. This group thus represents both material recovery and waste management practices. The last category was "Other" which included composting and electric. These classifications can be examined through *The Zero Waste Hierarchy 7.0* (Figure 1) which reflects ranks waste management tactics on a scale of highest and best use, being the top of the pyramid, and least preferred and unacceptable waste

disposal practices on the bottom of the pyramid. We can use the hierarchy to encourage domicological strategies that prioritize the most sustainable practices at the top of the hierarchy. For example, supporting upcycle business, as they fall within the "Reduce" tier while looking to move the practice of demolitionist, which usually fall in "Unacceptable" tier, up the hierarchy toward "Material Recovery."

Figure 1

Methods

The online survey was administered over a period of three months with the first response recorded on January 9, 2020 and the last on March 23, 2020. The MSRI team's primary method of survey administration was via Qualtrics by sharing the link with an extensive list of reuse and salvage businesses in Michigan compiled by the research team in the months leading up to administering the survey. This list was created through referrals from the MSU Domicology Network, the use of North American Industry Classification System (NAICS) Codes, The Michigan Recycling Directory, and via online searches of keywords relating to the sector

through Google business postings and other business directories. In addition, the team posted the survey link on the MSU Domicology Facebook page, the MSU CCED Facebook page, the Domicology website, and requested that academic and industry connections share the survey with their networks, including: the US Business Council for Sustainable Development, Michigan Recycling Coalition, the Michigan Department of Environment, Great Lakes, and Energy, and the Michigan Small Business Development Center. After the initial online distribution of the survey, the MSRI team made calls to non-respondent businesses encouraging them to either take the survey over the phone or to share an email address with the project team to which we could send the survey link. The team also re-sent the survey directly to non-respondents via email.

Results

Description of Businesses

The survey respondents totaled 28 out of which 27 are valid. For the purposes of our survey, we divided the Materials Salvage and Reuse sector into five different categories. When as to describe the primary nature of their business, 29.6 percent were Reuse as-is; 25.9 percent indicated Recycling; 22.2 percent were Upcycle/repurposing; 14.8 percent chose other; and another 7.4 percent were Demolition/ Deconstruction/ Salvage as seen in Figure 2.
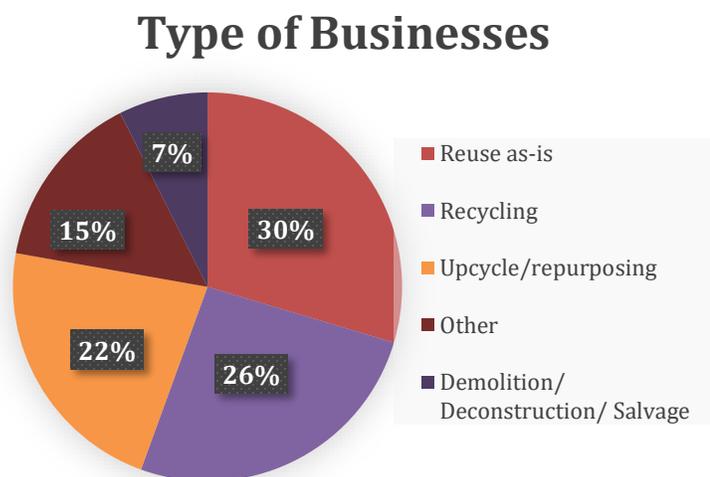
Type of Businesses

Figure 2

Along with categorizing themselves, we asked businesses about their number of employees. Majority of businesses in the sector, 56 percent, have under five employees (under 2 employees n=7, 2-5 employees n=7) while 20 percent have 6-10 employees and 24 percent have over ten employees (Figure 3). In addition, over the last three years, 60 percent of respondents have increased their sales (n=15), 20.0 percent of respondents' sales have stayed the same, and 20.0 percent have had their sales decrease showing promising growth in the sector.

Company Size (Employees)

- Under 2
- 2-5 Employees
- 6-10 Employees
- Over 10 Employees
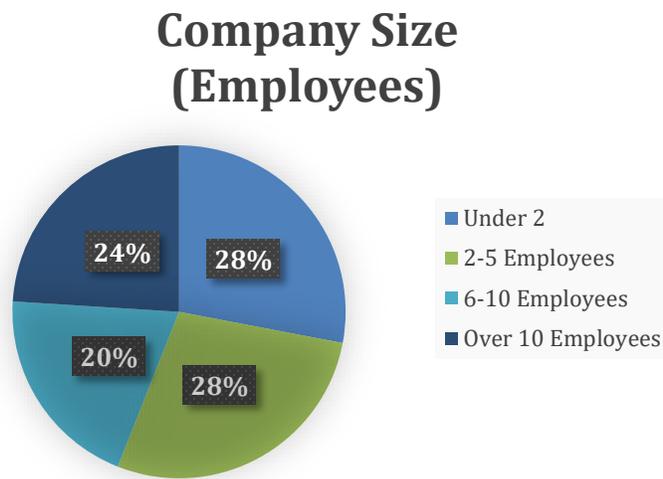
Figure 3

Description of Customer Base

We asked businesses to report both how far away most of their customers are located as well as the primary way customers learn about their products or services. Majority of businesses (66.7 percent) reported most of their customers residing within 50 miles of their storefront. 12.5 percent reported the majority of their customers are 50-100 miles away and an additional 12.5 percent reported majority of their customers are over 100 miles away.

The most frequent way customers learn about respondent's products or services are through social media (32.0 percent) and referrals from other customers (32.0 percent). Other businesses reported the way most of their customers find out about their products and services was through advertising (4.0 percent), their storefront (4.0 percent) and other (24.0 percent)

which included networking events, cold calling, B2B Sales Force, and word of mouth. Four percent of businesses reported their main customer acquisition method as unknown.

Training Needs

One of the main goals of this survey was to identify the training needs of the reuse sector to develop technical assistance (TA) and training to help expand the sector's capacity. Out of those surveyed, 21 businesses responded "yes" as to whether they would be interested in this TA training (87.5 percent). On a three-point Likert Scale (See Appendix B Q19), respondents were asked if training assistance would be not useful, useful, or very useful in the following categories: accounting (i.e. record keeping), finance (i.e. access to loans), marketing (i.e. advertising and sales), personnel (i.e. hiring and training), and business operations (i.e. purchasing).

The training needs with a mean of 2.00 or higher (1-not useful, 3-very useful) ranked from highest to lowest can be seen in Table 1. The category with the highest overall mean is Marketing (2.04).

Top Training Needs	Mean (1-Not Useful, 3-Very Useful)
Finance: Obtaining grants to support growth	2.38
Marketing: Creating an effective social media presence	2.33
Marketing: Advertising and sales	2.21
Marketing: Marketing plan	2.08

Table 1

Summary of findings

The overall findings of the survey show that businesses in this sector would find training in the marketing category the most valuable in addition to needing more grant funding to operate their businesses. Over the past three years, majority of businesses in the sector have either had sales increase or remain steady showing promising growth and possibilities in salvage and reuse. Most customers patronizing these businesses live within 50 miles of the business they purchase. A large majority of businesses reported acquiring their customers through either social media or word of mouth. Since many businesses acquire most of their customers from social media, improving social media presence was the technical assistance training with the second highest mean. Businesses also reported wanting to improve traditional advertising through training and creating an overall marketing plan. Overall, businesses showed willingness to partake in technical assistance trainings in general as over 80% reported being interested in possible trainings.

Methodological Issues and Study Limitations

One limitation of the study was the difficulty in identifying eligible businesses for the survey population. At the writing of this report the structural material salvage and reuse sector is largely unknown and dispersed across several NAICS codes making it extremely difficult to identify and connect with all the businesses in this sector. Unlike the other industry sectors there does not exist in the State of Michigan a statewide association of these businesses. In addition, due to the Center's and Domicology team's ties with businesses that are explicitly "reuse," we had more responses from recycling and "reuse" businesses and a low response rate from demolition or deconstruction businesses who may not self-identify as part of the reuse sector. As reported in our 2018 *Structural Material Reuse and Recycling Market Study,* there is no NAICS code for the reuse sector or other explicit classification making these businesses difficult to locate. Lastly, in our survey, businesses self-categorized, but they were only able to select

their primary business category when some of the businesses may have operations that fall under multiple categories.

Next Steps

Focus Groups with Commercial and Residential Construction Industry

A key component of the MSRI Hub's research endeavors include focus groups with targeted businesses in the commercial and residential construction industry to gauge these businesses' attitudes towards and engagement with Michigan's Reuse Economy. These businesses have been selected with input from key academic partners and industry stakeholders and represent a diverse selection of Michigan's construction businesses (including, small, mid-tier, and large sized businesses) as well as selected construction businesses from other states that have experience working within the reuse sector. These focus groups build upon the findings of the "Challenges and Opportunities in Materials Salvage and Reuse" Business Survey, specifically to gain perspective on challenges, potential needs, and economic opportunities for businesses that may desire to or already do engage with reuse economy businesses. Focus groups will explore both decision-making processes for materials sourcing as well as for C&D waste disposal.

Technical Assistance Network and Website

As part of providing Technical Assistance training to businesses in the sector, the MRSI Team began sending weekly emails to our MRSI Business Network connecting them to pre-existing training materials in the high-needs categories. These trainings have included Marketing Strategies and Tactics from Northern Initiatives, which helps businesses create a profitable marketing plan that meets their needs and set a short-term action plan; Michigan Small Business Development Center's COVID-19 Conversations webinar series, which provides small businesses with insight on combating challenges related to COVID-19: *MLive* Media Group's Grants to support the marketing of small businesses through an advertising matching

program; and Record Keeping for Small Businesses from Northern Initiatives which teaches record keeping basic practices, rules, tools, how to use them, and the benefits of record keeping. The MSRI team will continue to send out weekly trainings based on the needs assessment above.

In addition to sending these trainings directly to businesses, links to these trainings and others along with a map of businesses in this sector will be housed on the Domicology website. The website will also have a portal where businesses can submit training requests and a team member will connect them to available trainings. The MSRI Communications team will also begin a series of web interviews with businesses in the sector to share their stories and gain qualitative data about the struggles they face in this sector and how they were able to overcome those challenges to create a successful business.

Appendix A

Domicology Consultative Panel

Rhonda Oyer
Bill Stough
Chad Rogers
Eve Pytel
Kim Buccholz
Dustin Altschul
Andrea Brown
George Berghorn
Jonathan Walkotten
James Klausner
Luke Forrest Forest
Jessica Flores
Jeff Spencer
Courtney Knox
Manuel Garnica
Chris Babcock
Julie Brockman
Kris Jolley
Vankatesh Kodur
Paul Hickman
David DeYoe
Noah Durst
Daryl Gallant
Michael Mazor
Ted Reiff
Amy Butler
Dan Cooper
Yue Cui
Susan Vescovi
Lynette Cobb
Danielle Lewinski
Robert Rose
Dawn Opel
Kerrin O'Brien
Jeremy Haines

Appendix B

Challenges and Opportunities in Materials Salvage and Reuse

Your business is essential to the structural material salvage and reuse sector in the state of Michigan. It is estimated that this sector accounts for over 21,000 businesses, $80 million in annual sales, and employs roughly 3.5% of the state's workforce. Michigan State University's Domicology team, which studies the lifecycle of the built environment, and Michigan's Department of Environment, Great Lakes, and Energy (EGLE) are committed to help grow this business sector. We need your help identifying the challenges and opportunities that your business faces working in this sector, so that we can design and conduct meaningful training and technical assistance programs that can be of value to your business. Your response will help us to connect your business with relevant technical assistance and training programming.

The responses to this survey will be used for research purposes by the MSU Center for Community and Economic Development.

Please complete the brief online survey. Y*our participation in this survey is voluntary and you are welcome to terminate your enrollment in the survey at any time.* The survey should last approximately 15 minutes.

We look forward to learning more about how to help your business grow and thank you for your time. Should you have any questions or comments, we welcome you to contact the MSU Domicology team at hooperna@msu.edu

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Your Name:

_____

Date:

_____

What is the name of your business?

_____

What is the address?

_____

Contact Information

○ Name (1) _____

○ Title (2) _____

○ Email Address or Phone Number (4)
_____

How many employees do you have?

○ Full time (20 hours or more a week) (1)
_____

○ Half time (under 20 hours a week) (2)
_____

Please identify your business within one of the following categories. Select the one category that best represents your business.

○ Demolition/Deconstruction/Salvage (1)

○ Reuse as-is (Antiques, Architectural Salvage, Building Materials Resale, Appliances and Furnishings) (2)

○ Recycling (e.g., asphalt, PVC, metals, gypsum, etc.) (3)

○ Upcycle / Repurposing (e.g., new products created using salvaged or reclaimed materials, upcycle artists, repurposing salvaged materials in new capacity) (4)

○ Other (e.g., architecture and design, hazardous materials abatement, workforce development and training, or other). (5)

Please specify your selection of "Other"

_____

Please list the most common materials or goods that your business sells (e.g., structural lumber, appliances, windows, reclaimed furniture, antique fixtures, etc.)

_____

Please list the most common materials that your business recycles

_____

Please list the reclaimed materials that your business utilizes and describe the new product that you produce (e.g., utilizing salvaged wood to create cutting boards or picture frames)

_____

End of Block: General Business Information

Are you a member of any business association or similar group?

○ Yes (1)

○ No (2)

Please list the name(s) of those groups here?

_____

When you need business advice, who do you go to? (Can provide general or specific answer)

_____

To the best of your knowledge, are most of your customers located: (Please select one)

○ Under 50 miles (1)

○ 50-100 miles away (2)

○ Over 100 miles (3)

○ Internet (4)

○ Other (5) _____

○ Unknown (6)

How do most of your customers learn about your products or services? (Please select one)

○ Storefront (1)

○ Advertising (e.g., commercials, newspapers advertisements, billboards, etc.) (2)

○ Social Media (3)

○ Referral from other customers (4)

○ Other (5) _____

○ Unknown (6)

Over the past 3 years, have your sales: (Please select one)

○ Increased (1)

○ Stayed the same (2)

○ Decreased (3)

Training Needs Assessment: The following questions are designed to help us prioritize training needs for your business. Please rate each topic as *not useful, useful,* or *very useful* to indicate how important each training would be to your business.

Accounting: Setting up a business accounting system, analyzing the financial position and operating results of a business from a study of sales, pricing, expenses

	Not Useful (1)	Useful (2)	Very Useful (3)
Record Keeping (1)	○	○	○
Financial Reporting (2)	○	○	○
Cash Flow Management (3)	○	○	○
Tax Preparation & Reporting (4)	○	○	○
Credits & Collections (5)	○	○	○
Payroll Management (6)	○	○	○

Finance: The determination of business capital requirements and the supply and effective management of financial resources

	Not Useful (1)	Useful (2)	Very Useful (3)
Access to Loans (1)	○	○	○
Access to Equity Financing (2)	○	○	○
Obtaining Grants to support growth (3)	○	○	○
Obtaining Financing for Expansion (4)	○	○	○
Obtaining Financing for Operating Support (5)	○	○	○

Marketing: Identifying a customer's need and delivering a product or service to meet that need

	Not Useful (1)	Useful (2)	Very Useful (3)
Marketing Plan (1)	○	○	○
Advertising & Sales (2)	○	○	○
Pricing (3)	○	○	○
Customer / Public Relations (4)	○	○	○
Creating a viable online sales platform (5)	○	○	○
Creating an effective social media presence (6)	○	○	○

Personnel: The effective management of total personnel resources

	Not Useful (1)	Useful (2)	Very Useful (3)
Employee Benefits (1)	○	○	○
Hiring / Termination (2)	○	○	○
Training / Orientation / Motivation (3)	○	○	○
Compliance with Occupational Safety Regulations (4)	○	○	○

Business Operations: The overall process of physically operating your business

	Not Useful (1)	Useful (2)	Very Useful (3)
Purchasing (1)	○	○	○
Quality Control (2)	○	○	○
Inventory Control (3)	○	○	○
Store Layout (4)	○	○	○
Legal Assistance (5)	○	○	○
Regulatory Compliance (6)	○	○	○

Are there any other training topics that would be useful to help grow your business? If so, please list them below.

_____

End of Block: Training Needs Assessment

Start of Block: Comments or Other Information

Would you be interested in participating in relevant webinars or online trainings on the training topics above?

○ Yes (5)

○ No (6)

Is there anything else that you would like to tell us about challenges or opportunities facing your business, or about support you would find helpful to grow your business that was not touched upon by this questionnaire? We welcome your comments here:

_____

_____

_____

_____

_____

Thank you for your time. Should you have any questions about this questionnaire or about this project, please do not hesitate to contact us at (517) 353-9555 or hooperna@msu.edu

End of Block: Comments or Other Information

References

Uberti, D. (2014, April 03). The death of a great American city: Why does anyone still live in

    Detroit? Retrieved July 07, 2020, from

    https://www.theguardian.com/cities/2014/apr/03/the-death-of-a-great-american-city-why-

    does-anyone-still-live-in-detroit