Integrating Sustainability into Small and Medium-sized Businesses in NYS

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Agenda

Problem
Purpose
Methods
Results
Moving Forward
Problem
258 million
Tons of waste produced in the US alone

99.7%
Businesses considered SMEs

60%
Global CO\textsuperscript{2} from SMEs

70%
Global pollution from SMEs
What Do We Know Already?

• Based primarily in Europe
• Studies lack sufficient scope
• Slightly outdated
Purpose
Purpose

1. Identify what motivates/hinders SMEs in NYS
   - Start by understanding local space
   - Consider Multiple Factors (company values, cost concerns...)
   - Utilizing interviews (qualitative) and a survey (quantitative)

2. Extend the knowledge of existing literature in the United States

3. Assist policy makers and SMEs in decision making
Methodology
Semi-structured Interviews

- Length: 6 open-ended questions, up to 1 hour
- Sample Size: 75 participants, across industries
- Geographic Scope:
  - Ithaca (25)
  - Syracuse (9)
  - New York City (11)
  - Buffalo (9)
  - Other (20)
Online Survey

- 680 SMEs in NY State
- All 62 counties
Industry Representation

- Professional, Scientific, and Technical Services: 23%
- Manufacturing: 17%
- Construction: 8%
- Other: 52%
## SME Size

<table>
<thead>
<tr>
<th>#</th>
<th>FTE</th>
<th>Count</th>
<th>As a % of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Less than 10</td>
<td>181</td>
<td>51%</td>
</tr>
<tr>
<td>2</td>
<td>Between 10 and 50</td>
<td>120</td>
<td>34%</td>
</tr>
<tr>
<td>4</td>
<td>Between 50 and 99</td>
<td>33</td>
<td>9%</td>
</tr>
<tr>
<td>5</td>
<td>Between 100 – 249</td>
<td>17</td>
<td>5%</td>
</tr>
<tr>
<td>6</td>
<td>Greater than 250</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
Your role in your business

- Owner: 64.71%
- Executive: 19.81%
- Middle management: 9.60%
- Entry-level management: 1.86%
- Other: 4.02%
Conceptual Model of Sustainability in SMEs

Motivations

Barriers

Sustainability Performance

Economic Performance

Moderators (age, industry type, location)

Our focus here
Results
72% of SMEs in New York State have adopted sustainable solutions
Among sustainable solutions

*Recycling waste* topped the list of the adopted solutions; nearly 60% of the SMEs engaged in this practice
Questions

- Implemented Solutions
- Audits, Certificates, Training
- Motivations
- Financial Incentives
- Government Regulations
- Competitor Drive
- Cost Concerns
- Reasons to not Implement
- Paid Off

Diagram:

- Recycled Water: 7%
- Other: 7%
- Reduced soil, water, noise,...: 9%
- Reformulated: 10%
- Had a Return Policy that...: 11%
- Reduced Water: 14%
- Redesigned Packaging: 15%
- Used Renewable Energy: 16%
- Reused Other Waste...: 21%
- Engaged in sustainable...: 21%
- Reduced material, product,...: 24%
- Reduced Waste: 41%
- Reduced Energy...: 45%
- Replaced Old Equipment: 46%
- Recycled Waste: 59%
Only 25% of SMEs in NY State used energy audits
Other types of sustainability solutions

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- Had a safe / appropriate method to dispose of waste: 42.69%
- Used energy audit(s): 25.44%
- Engaged in educating the public or industry on sustainable solutions: 18.13%
- Used environmental management tool(s): 7.89%
- Obtained sustainability certifications (e.g., B Corporation, Cradle to Cradle, etc.): 5.85%
Awareness, Values and Education were the key drivers of sustainability adoption by NYS SMEs
• Implemented Solutions
• Audits, Certificates, Training
• Motivations (Awareness, Values and Education)
• Financial Incentives
• Government Regulations
• Competitor Drive
• Cost Concerns
• Reasons to not Implement
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Financial incentives offered by NY State topped the list of incentives used by SMEs to adopt sustainable solutions.
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Graph showing financial incentives:
- Loan Guarantees: 5
- Loans: 12
- Subsidies: 16
- Tax Deductions: 31
- Grants/Awards: 43
- Tax Credits: 47
- Rebates: 69
- Other: 69
INCENTIVES OFFERED BY

- State: 34%
- Local Municipalities: 25%
- Federal: 21%
- Counties: 20%
Majority of NYS SMEs believe that regulatory compliance was not a key consideration in embracing sustainability
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Chart: Bar chart showing different categories of constraints with the following bars:

- No Constraints
- Slight Constraints
- Moderate Constraints
- Significant Constraints

(Y-axis: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 220, 240)
Only about 20% of the respondents, though, agree or strongly agree with the competitive pressures influencing such decisions.
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Half of SMEs found cost of implementing sustainable solutions constraining their adoption decisions
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Sustainable Business

- Disagree (1 - 2): 14%
- Neither Agree/Disagree (3): 55%
- Agree (4 - 5): 31%

None Sustainable Business

- Disagree (1 - 2): 30%
- Neither Agree/Disagree (3): 9%
- Agree (4 - 5): 61%
Barriers other than Costs

<table>
<thead>
<tr>
<th>Question</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Agree Nor Disagree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limited Space</td>
<td>13.26%</td>
<td>20.17%</td>
<td>38.40%</td>
<td>22.65%</td>
<td>5.52%</td>
</tr>
<tr>
<td>Time Restrictions</td>
<td>12.33%</td>
<td>19.45%</td>
<td>42.47%</td>
<td>19.18%</td>
<td>6.58%</td>
</tr>
<tr>
<td>Lack of Skilled Labor</td>
<td>14.88%</td>
<td>24.79%</td>
<td>47.66%</td>
<td>9.64%</td>
<td>3.03%</td>
</tr>
<tr>
<td>Organizational Resistance</td>
<td>19.56%</td>
<td>28.10%</td>
<td>42.70%</td>
<td>7.71%</td>
<td>1.93%</td>
</tr>
<tr>
<td>Market Uncertainty</td>
<td>14.05%</td>
<td>22.87%</td>
<td>47.38%</td>
<td>13.22%</td>
<td>2.48%</td>
</tr>
</tbody>
</table>

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- Audits, Certificates, Training
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Did Sustainability Adoption Payoff?
Questions

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Implications

• Extended our understanding of sustainability in NY SMEs
• Insights to share with policy makers and government bodies
• Provided guidance for further study and analysis
Moving Forward

• Statistical Analysis of Data

• Surveying more SMEs with certain focuses
Thank You