Assessment of Collaboration of the Paint Product Stewardship Initiative (PPSI) Pilot Program

ENV 280: Survey Design & Methods November 30, 2010

> Amy Braunz Julie Colvin Whitney Knapp Hedrick Strickland

Video

Overview

- Client Background
- 0 Objective
- Research Questions
- Methods
 - Survey Design
 - IRB Review
 - Focus Group
 - Pre-Test
 - Survey Administration
- Potential Error
- Results
 - Descriptive Statistics
 - Inferential Statistics
- Conclusions

Client

- O Primary: Matt Keene,
 - US Environmental Protection Agency (EPA)
 - Evaluation Committee Chair of Paint Product Stewardship Initiative (PPSI)



- Secondary: Ann Marie Thomson, PhD,
 - Indiana University, Bloomington
 - Publication: Conceptualizing and Measuring Collaboration, 2007



Background

Paint Dilemma



010% (64 million gallons annually) of purchased paint is unused

OGovernment, retailers & manufactures must find a safe solution to reduce, reuse, and recycle paint waste

Policy Reform

OProduct Stewardship Institute (PSI) began facilitating a national dialogue to reduce, reuse, and recycle leftover paint – 2003

- Led to Oregon Paint Stewardship Law (summer 2009)
- Evaluation Committee must assess the effectiveness of PPSI process and pilot program based on 6 goals, including collaboration

Objective



Research Questions

To what extent was the pilot program a collaborative process?

1) How did different groups view the collaborative process?

2) How effective were the tools and strategies used to foster collaboration?

Methods | Survey Design C

- Web Survey
 - Host: Qualtrics.com
- 24 Questions
- Key Questions
 - Demographics
 - Organization Type & Role
 - Length of Time Involved
 - Communication Tools Used/Prefer to Use
 - Level of Participation
 - # Phone Calls & Conferences Attended
 - Opinions about collaboration

Methods | IRB Review

- Project results may be published with Ann Marie Thomson as a follow-up to her research: Conceptualizing and Measuring Collaboration, 2007
- IRB Exemption submitted and approved
 - October 12, 2010



Methods | Focus Group <

- Date:
 - October 15, 2010

• Requirements:

• Involved in a collaboration; independent of study group; accessible

• Participants: 11 total

- 3 Duke student group leaders, 8 Duke staff
- Representatives from Campus Greening Initiatives: Recycling, Sustainability office, Student Environmental Groups, Purchasing, Communication, etc.

O Discussion:

- Definition, tools, barriers & benefits of collaboration
- Survey format/wording

• Survey Changes:

- Add how partners communicate, not just how often
- Likert Scale adjusted
- Question responses shortened

Methods | Pre-Test



- Sent to 10 (active) members of PPSI sample group
- Sent by Scott Cassel, Executive Director of the Paint Product Stewardship Initiative
- Response Rate: 50% (5 of 10 PPSI members)
- Survey Changes (Minimal)
 - Question wording clarified about frequency of communication with participating organizations regarding just PPSI
- O Pre-test Responses Used in Data Analysis

Methods | Survey Administration

- O Survey Type
 - Web-based survey, hosted by Qualtrics

O Survey Population

- Targeted Sample
- Participants of the Paint Product Stewardship Initiative (PPSI)
- Sample Size
 - 409 (not including pre-test); 419 including pre-test

• Survey Timing

• November 9 – 19, 2010

• Reminders

- 2 email reminders sent (Nov 11, Nov 16)
- Increased response rate from $~70 \rightarrow ~100 \rightarrow ~120$

Survey response rate (including pretest)
125 of 419 = 30%



Proportion of respondents that participated in PPSI
 88 of 125 = 70%



Types of Respondents



Role of Participants



Frequency of communication with different participant types



Types of communication tools currently used



Used v. Preferred Modes of Communication



Results | Comments

Other suggested communication tools:

- Broadcast conferences
- Webinar
- Electronic newsletter
- Interaction with website (blog or comment area)

Results | Inferential Statistics <

Analysis Bundling By Role

- Local Government (33 observations)
- State & Federal Government (23 observations)
- Universities, Trade Associations & Non-Profits (10 Observations)
- Retailers, Manufacturers, Other (Mostly Contractors & Consultants) (26 observations)

Analysis Bundling By Conference & Phone Participation

Frequent Participation:

>1 conference attended; Usual/Always Phone Participation

Infrequent Participation:

≤ 1 conference attended; Never/Occasional Phone Participation

Results | Inferential Statistics <

Difference in call participation by organization category2 Sample T-test



Results | Inferential Statistics C

- Difference in perceived overall collaboration by (2 sample t-test)....
 - Organization type
 - Role
 - Participation start time
- All insignificant at the 10% level or less

Results | Inferential Statistics C

Overall collaboration opinion versus conference and phone participation

| Regression Type | Outcome Variable | Independent Variable | Coefficient Value |
|--------------------|--|------------------------------------|----------------------|
| OLS | Overall Collaboration | Total Conferences Attended | 132** |
| Logit | Overall Collaboration (neutral = removed) $[0 \rightarrow 5 \text{ observations};$ $1 \rightarrow 66 \text{ observations}]$ | Total Conferences Attended | 312** |
| | | Phone Call Participation Frequency | .945 |
| Logit | Overall Collaboration (neutral = disagree) $[0 \rightarrow 12 \text{ observations};$ $1 \rightarrow 66 \text{ observations}]$ | Total Conferences Attended | 165 |
| | | Phone Call Participation Frequency | 1.36*** |
| Logit | Overall Collaboration (neutral = agree) $[0 \rightarrow 5 \text{ observations};$ $1 \rightarrow 73 \text{ observations}]$ | Total Conferences Attended | 3295** |
| | | Phone Call Participation Frequency | .864 |

*** Significant at 1% Level; ** Significant at 5% Level; * Significant at 10% Level

Results | Inferential Statistics <



Results | Inferential Statistics <

Overall Collaboration vs. Number of Conferences Attended



Number of Conferences Attended

*NOTE: Regression of overall collaboration vs. frequency of phone call participation: insignificant

Results

Collaboration Attribution to Meet PPSI Goals (2 sample t-test)

| Goal | Significant Results | Mean |
|---|--|--|
| Ensure that leftover paint and empty containers will be managed in a manner that is protective of human health and the environment | Local Government vs. non-local govt Private/Other vs. non-private/other Funders vs. non-funders | 5.91 vs. 5.42** 5.29 vs. 5.73* 5.96 vs. 5.45** |
| Reduce paint waste | Funders vs. non-funders | 5.48 vs. 4.71** |
| Efficient collecting, reusing, and recycling leftover paint | Local Government vs. non-local govt Private/Other vs. non-private/other | 5.97 vs. 5.21*** 4.85 vs. 5.75*** |
| Increase markets for products made for leftover paint | Local Government vs. non-local govt Regular Participant vs. non-regular participants Occasional Participant vs. non-occasional participants | 5.5 vs. 4.5*** 4.5 vs. 5.1* 5.3 vs. 4.7* |
| Create a sustainable financing system to cover end-of-life management costs for paint products | Local Government vs. non-local govt. | 5.75 vs. 5.1** |

*** Significant at 1% Level; ** Significant at 5% Level; * Significant at 10% Level

Error Potential

- Email list not entirely comprehensive
- Low representation of various organizations
 - NGO/Non-profit, Trade association, Universities
- Most respondents from local & state government
- 30% response rate
 - Low for program evaluation of targeted audience
- Regression based on Likert scales Not Ideal

Conclusions

- Match preferred methods of communication with current methods of communication
 - Utilize the website more
- Provide an outlet for anonymous suggestions and comments for opinions to be shared
- Increase non-government agency participation

Hindsight

- Included less active and less represented participants in pre-test
- Had a effective "snowball" method to request the most appropriate person from their organization to take the survey





Questions?