Communicating About Water Resources: What We Can Learn from Surveys and Experiments

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Communication Research and Water Resources

- How might people respond to the prospect of using new water resource technologies in their communities?

- What types of scenarios and messages might be effective or ineffective in encouraging adoption of reclaimed water?
Analyzing ‘Risk Publics’ for New Technologies

- Citizens intuitively evaluate the risks and benefits of all kinds of technologies
- Citizen perceptions seem to be important, as we’ve learned from Milwaukee in 1993 and ‘anti-fluoridationist’ movements

Reclaimed water: Could it be successful?
Simulating the Dynamics of Communities

- How do these different groups interact with each other?
- How do those interactions shape overall community acceptance of a technology?

Turns out that community acceptance prevails, but not in a linear way. Acceptance is negotiated over time, giving us insight into infrastructure policies for implementation.
Experiments overcome some limitations of surveys. In communication research, we often focus on measuring the influence of messages on some outcome.

Again, in the context of reclaimed water, what types of messages might influence the likelihood of citizens using the water?
Experiment 1:

Imagine that the manager of your local water utility asked you to use less water at your residence.

- Varied by opinion leader and
- Different abstract versus concrete behaviors
How likely would you be to comply with that request? Coming from ...

- Water utility manager: 3.943
- Local elected official: 3.595
- A neighbor: 3.409
- A co-worker: 3.175
- Local church leader: 3.067
How likely would you be to comply with that request to … ?

Abstract request: 3.675
Concrete request: 3.178
How likely would you be to comply with that request to ... ?

Abstract
- Use less water: 3.834
- Use 33% less water: 3.631
- Use 50% less water: 3.541

Concrete
- Take 5-minute showers: 3.752
- Only flush the toilet twice a day: 2.925
- Showers + toilet: 2.903

Use less water
Use 33% less water
Use 50% less water
Take 5-minute showers
Only flush the toilet twice a day
Showers + toilet
Experiments

How likely would you be to comply with that request? Coming from …

<table>
<thead>
<tr>
<th>Role</th>
<th>Use less water (Score)</th>
<th>Shower + toilet (Score)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water utility manager</td>
<td>4.961</td>
<td>3.579</td>
</tr>
<tr>
<td>Local elected official</td>
<td>4.143</td>
<td>2.744</td>
</tr>
<tr>
<td>A co-worker</td>
<td>3.551</td>
<td>2.511</td>
</tr>
<tr>
<td>A neighbor</td>
<td>3.535</td>
<td>3.082</td>
</tr>
<tr>
<td>Local church leader</td>
<td>3.35</td>
<td>2.578</td>
</tr>
</tbody>
</table>
Experiments

What the experiment shows us …

• Who could make for a good messenger
• What kinds of requests seem reasonable
• What the outcome might look like

In addition to this more exploratory look at reclaimed water, we also looked at financial incentives for adopting reclaimed water.
Experiment 2:
Imagine your community would like to build infrastructure to deliver reclaimed water to residents who are interested in using it. To pay for this water system, every household in the community would have to pay no additional surcharge in their monthly water bill. Each household that chooses to use reclaimed water would need to be hooked up to this new system. The water utility would do this for those people, and they would receive no incentive for signing up in the program. Finally, for those people who chose to use reclaimed water, their monthly water bill would stay about the same.
Experiments

Hypotheses:

1. Most attractive option = Reduced bill, large rebate, no surcharge

2. Least attractive option = Same bill, no rebate, bigger surcharge
Experiments

Results:

1. Most attractive option = Reduced bill, no rebate, smaller surcharge

2. Least attractive option = Same bill, no rebate, bigger surcharge

Biggest deciding factor? Whether or not the overall household water bill stays the same or if it gets reduced by a small amount.
Conclusions

Communication Research and Water Resources

- Integrating people more centrally into models of natural resources, especially taking into account the systematic nature of human behavior.
- Interdisciplinary collaborations to bridge the social science/engineering/naturals sciences divide.
- Surveys and experiments to answer targeted questions about consumer attitudes and behaviors.