EE/DR Technology:
If You Build Diffuse It, They Will Come

DIFFUSION OF INNOVATIONS: FROM IDEAS TO ACTION

Christine Geltz, President
Geltz Communications, Inc.

Behavior, Energy, and Climate Change Conference
Sacramento, California
November 17, 2008
Why an expert diffusion strategy is a sound investment

- Easily design and deploy your outreach strategy
- Know who to target in a customer population and in what sequence
- Innovate during campaigns to take advantage of new opportunities
- Get buy-in and support from internal and external stakeholders
- Re-deploy budget normally used for paid advertising to create beneficial relationships and culture change receptive to further EE/DR programs
- Predict adoption rates

Program examples in this presentation:
- Non-utility third party EE program: small business retrofit
- Utility DR program: small business 2-way communicating thermostats
The Big Question

Why don’t customers always take us up on these great EE/DR programs, especially when we offer incentives?
The Big Answer

Technologists believe that advantageous innovations will sell themselves.

- They think the obvious benefits will be widely realized by potential adopters and then...
- The innovations will diffuse rapidly.

Everett M. Rogers

*Diffusion of Innovations*
“Getting a new idea adopted, even when it has obvious advantages, is difficult.”

E.M. Rogers, opening sentence
Diffusion of Innovations, p. 1
How do we get around this?
It boils down to how we see our customers

- **In traditional EE/DR programs**: We think customers
  - Operate as individuals in a vacuum
  - React to logical arguments with logical decisions
  - [This describes only a small percentage of the population, reflects the innovators—like EE/DR program designers—themselves]

- **In diffusion-oriented programs**: We treat customers as if they
  - Operate as part of a social system
  - Depend on near-peers for subjective evaluation of innovations (EE/DR technologies or behaviors)
The Definition of Diffusion

Process in which an innovation is communicated over time among the members of a social system

- Innovation and its perceived attributes
- Communication channels
- Time and the steps in the decision-making process
- Social system and innovativeness
The Innovation
(Can be new EE/DR technology or behavior)

Diffusion = Innovation is communicated over time in a social system
Perceived Attributes of the EE/DR Innovation Affecting Diffusion Rate

- **Relative advantage**: Better than the idea it supersedes? (Incentives increase advantage in potential adopter’s mind)
- **Compatibility**: Consistent with existing values, past experiences, needs?
- **Complexity**: Difficult to understand and use?
- **Trialability**: Okay to experiment on a limited basis?
- **Observability**: Can results be observed in other settings before adoption?

**Bottom line**: Messaging should reduce the customer’s uncertainty about the innovation.
More About Attributes

- Is it compatible with existing habits and values? Is it hard to use? The newness and unfamiliarity of an innovation infuse the cost-benefit analysis with a large dose of uncertainty.
  - It sounds good, but does it work?
  - Will it break?
  - If I adopt it, will people think I’m weird?
  - If I don’t adopt it, will people think I’m behind the curve?
- Since people are on average risk-averse, the uncertainty will often result in a postponement of the decision until further evidence can be gathered.
- But the key is that this is not the case for everyone.
The Communication Channels

Diffusion = Innovation is *communicated* over time in a social system
Communication Channels

- **Mass media channels** (including direct mail) are most effective in providing awareness / knowledge: one entity can easily reach many

- **Interpersonal channels** are more effective in persuading individuals to accept a new idea
  - Especially if the channels link individuals who are similar in socioeconomic status, education and other ways

- **Interactive channels** like the Web and social media becoming more important for diffusion
Figure 5-3. Importance of Interpersonal Channels

Interpersonal channels are relatively less important for earlier adopters than for later adopters of 2, 4-D weed spray in Iowa.

Source: Beal and Rogers (1960, p. 19).

From Rogers (2003, p.212)
The Impact of Time

Diffusion = Innovation is communicated over time in a social system
The Innovation-Decision Process over Time

Each member of the social system faces his/her own innovation-decision in a 5-step process:

- **Knowledge** – person becomes aware of an innovation and has some idea of how it functions,
- **Persuasion** – person forms a favorable or unfavorable attitude toward the innovation,
- **Decision** – person engages in activities that lead to a choice to adopt or reject the innovation,
- **Implementation** – person puts an innovation into use,
- **Confirmation** – person evaluates the results of an innovation-decision already made.
Communication Channels in Action during the Decision-Making Process

Mass media most effective here for awareness & knowledge

Adapted from Rogers (2003)
Most Influential Channels at Each Step in Innovation-Decision Process

- **Knowledge**: Mass media channels (including direct mail) provide general info about innovation
- **Persuasion**: Interpersonal channels with near-peers (customer seeks info about advantages & disadvantages in own situation)
- **Decision**: Interpersonal channels with near-peers (subjective evaluations by other individuals)
- **Implementation**: Change agent and near-peers
- **Confirmation**: Customer confirms own adoption decision by creating new channels and recommending to others
One reason why innovators are earlier than others in their system in adopting new ideas is because they have much shorter innovation-adoption periods.

Source: Based on data from 148 Iowa farmers gathered by Beal and Rogers (1960).

From Rogers (2003)
The Social System

Diffusion = innovation is communicated over time in a social system
Speaking the Same Language

- **Homophily**: individuals who interact are *similar* in key attributes like beliefs, education, socioeconomic status
  - Communication is effective and rewarding
  - But little innovation takes place because everyone knows mostly the same things in the same context

- **Heterophily**: individuals who interact are *different* in these key attributes
  - Communication is more difficult because of different backgrounds, experiences, jargon, context
  - But more innovation happens
Enter the EE/DR Change Agent (All of Us)

- More technically competent than customers on EE/DR
- Has empathy with customers
- Can translate the new EE/DR innovation into customer language
- Makes diffusion interaction rewarding
Who Do That Persuasive Voodoo?

- **General marketing wisdom:** Mass media has direct, immediate, and powerful effects on the mass audience.
  - Its most powerful effect on diffusion is that it spreads knowledge of innovations to a large audience rapidly.
  - It can even lead to changes in weakly held attitudes.

- **Diffusion theory:** Since opinion leaders directly affect tipping of an innovation, a powerful way for change agents to diffuse an EE/DR innovation is to affect opinion leader attitudes.
  - Strong interpersonal ties are usually more effective in the formation and change of strongly held attitudes.
  - Firm attitudes are developed through communication exchanges about the innovation with peers and opinion leaders.
  - These channels are more trusted and have greater effectiveness in dealing with resistance/apathy on the part of the potential customer.
Innovativeness and Adopter Categories

Innovators respond best to mass media and logical messaging.

Most people rely on a combination of objective and subjective messaging and interpersonal communication channels for persuasion.

Adapted from Rogers (2003, p. 281)
Role of Opinion Leaders

Figure 8-2. Diffusion of the Alarm that the British Were Coming on April 18–19, 1775

From Rogers (2003, p. 315)
Opinion Leaders and Early Adopters

- Early adopters use info provided by the innovators’ implementation and confirmation of the innovation to make their own adoption decisions.
- If the opinion leaders observe that the innovation is effective for the innovators, then they are encouraged to adopt.
- Early adopter group earns respect for its judicious, well-informed decision-making, so this is where most opinion leaders in a social system reside.
- Much of the social system does not have the inclination or capability to stay on top of latest info about innovations, so they trust the decisions made by opinion leaders.
- Much of the social system merely wants to stay in step with the rest.
- Since opinion leader adoption is a good indicator that an innovation is going to be adopted by many others, these conformity-loving members are encouraged to adopt.
The Tipping Point and Late Adopters

- A large subsection of the social system follows suit with the trusted opinion leaders.
- Rate of adoption rapidly increases.
- Even for those who are cautious or have doubts about the innovation, adoption becomes a necessity as the implementation of the innovation-decisions of earlier adopters result in social and/or economic benefit.
- Those who have not adopted lose status or economic viability, and contextual pressure motivates adoption.
Laggards

- Can either be very traditional or be isolates in their social system
- If traditional, they are suspicious of innovations and often interact with others who also have traditional values.
- If isolates, their lack of social interaction decreases their awareness of an innovation’s demonstrated benefits.
- Take much longer than average to adopt innovations.
- For EE/DR programs, better to concentrate on the early and late adopters and let them reach this group
Role of Incentives in Persuasion

- Increase the rate of adoption of an innovation, especially in later adopters
- Serve as cue-to-action
- Lead to adoption of an innovation by individuals different from those who would otherwise adopt
- Quality of adoption decision may be low—may result in less motivation to continue using the innovation
EE/DR Diffusion in the Real World
Example: Non-Utility Third-Party EE Program

- Small business retrofit program in six counties of northern California
- Provides free energy efficiency assessment (we do not use the word “audit”), report on potential savings, costs, and payback period
- Provides incentives paid directly to pre-qualified contractors on
  - Lighting
  - Programmable thermostats
  - AC and refrigeration tune-ups
  - Vending machine “miser” technology
Diffusion Strategy

- Designed as a community blitz with 100% participation goal
- **Recruited opinion leaders** (mayor, city council, chamber director and board) for the program first and work through them
- Softened market with **media releases**
- Sent out mailing of **mayor’s endorsement letter** on city letterhead /envelopes enclosing program flyer
- Sent out mailing of **chamber director’s endorsement letter** on chamber letterhead/envelopes enclosing program flyer
- Provided program article for **city and chamber newsletters**
- Got link to program from home page of **city/chamber websites**
- Provided **limited telephone outreach** to key opinion leaders
- Provided **limited door-to-door outreach** in key areas
- Debriefed field reps for new **opportunities and tweaks**
Dear Business owner:

The City of Cloverdale and The Cloverdale Chamber of Commerce are very pleased to announce their endorsement of The Small Business Energy Alliance Energy Savers Program, an energy efficiency program administered by Pacific Gas & Electric that can help you business save energy and money!

Participating is as simple as 1, 2, 3:

1. Call the Energy Savers toll-Free number (800) 881-7322 to schedule a free no-obligation energy survey.
2. Choose the energy saving improvements you want from the Energy Savers survey report you receive.
3. After installation is done, pay for just your portion of the project—no waiting for a rebate in the mail. The Small Business Energy Alliance will handle all the paperwork and make sure the job is done to your satisfaction.

The Energy Savers program gives businesses directly to qualified contractors to help you save money by:

- Replacing inefficient lighting with high-efficiency models (fluorescent tubes, compact fluorescent lights or motion sensor switches)
- Upgrading your air conditioning system
- Installing a new Energy Star®-rated programmable thermostat

Call us today at (800) 881-7322 for your free energy survey. You can also visit www.energyalliance.com for more information about saving energy and money.

Sincerely,

[Signature]

Mayor of Cloverdale

---

June 20, 2007

Dear Member:

As you should have heard by now, The City of Cloverdale and the Cloverdale Chamber of Commerce have officially endorsed The Small Business Energy Alliance (SBEEA) Energy Savers Program, a community initiative designed to help small businesses lower their energy bills and reduce greenhouse gas emissions with minimal effort and cost offsets.

We are asking that you please participate in the program if you have not done so already and spread the word about this great effort to reduce greenhouse gas emissions and reduce your energy bill. Our business community in Cloverdale needs to come together to make this happen and we need your support.

Our goal is to get 100 percent of small businesses in The City of Cloverdale to sign-up with this program. This will be no easy task, but with your support, we can all come together to help the environment and to set an example for other communities throughout the County of Sonoma, the State of California and even the nation.

If you implement just a few energy saving improvements from the program, you could reduce your energy bill considerably and save money. And this requires hardly any effort on your part. Just take a no-obligation energy survey and see how quickly the program can start helping your business save money and energy.

For more information, please visit www.clovedalechamber.com or call 800-881-7322.

We urge you to support this community effort. Thanks for your time and we appreciate your consideration.

Sincerely,

[Signature]

Luciano Tornatore
President
Cloverdale Chamber of Commerce

www.cloverdale.com
Sample Tools

Cloverdale Businesses Saving Money and Reducing Greenhouse Gas Emissions — It’s a Win-Win Situation!

The Small Business Energy Alliance (SBEA) Energy Savings Program is in full swing in The City of Cloverdale. Since the City of Cloverdale and the Cloverdale Chamber of Commerce have officially endorsed the SBEA Energy Savings Program, businesses are quickly signing up to lower their energy bills and reduce greenhouse gas emissions with minimal effort and cost offsets.

Here, businesses in Cloverdale are benefiting from:
- Insulated Windows of Cloverdale
- Firewalls
- Virginia Free Company
- Sunshine and Mountain
- James H. Enrick, attorney at law
- Terra Foods
- Shaheen’s Pizza

The City of Cloverdale and the Cloverdale Chamber of Commerce thank you for your support of this energy-saving initiative and we encourage all businesses to participate by calling (909) 928-5411 to sign up or visit www.cloverdale.com or call for a quote, no-cost, no-obligation energy survey.

Shrinking SBEA Energy Savings Program

The SBEA, Energy Savings Program, available in northern California counties (Sutter, Glenn, Butte, Tehama, Colusa, Plumas, and Lassen), enables businesses to take advantage of more than $1 Million in public grants funding authorized by the California Public Utilities Commission to implement energy-saving improvements. The SBEA is working with the Climate Protection Campaign to help customers in Sonoma County save money and reduce greenhouse gas emissions.

Since its inception in 2009, the SBEA has helped Northern California business save an estimated $1 Million in annual energy costs. Businesses that have taken advantage of the Energy Savings Program are seeing from 20 to 80% savings on their energy bills. These business, in turn, have reduced their electric usage by nearly 1 billion kilowatt-hours a year — enough to meet the annual energy needs of 1,500 households.

For more information about the Energy Savings Program or to schedule a no-obligation, no-cost energy survey, call (909) 928-5411 or visit www.sbea.com.

Yoga Classes Come to the Plaza

Free yoga classes will be held every Saturday from 10:00-10:30 a.m. in the plaza. All are encouraged to attend, whether already yoga practitioners or total beginners. The classes are designed to give our local people an opportunity to experience yoga and the potential related health benefits. This is a new and innovative use for our plaza and will bring more people downtown. The classes will begin July 7th and continue through August.

Cloverdale Farmers Market

Is being held on East Brood Street

Every Friday

5:30 - 7:30 p.m.

For more information Please call 892-3938

We are always looking for volunteers and backyard growers who are interested in turning their crops into cash.

It is simple to get certified!

<table>
<thead>
<tr>
<th>Inside</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio Ad Opportunity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Event Highlights</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Briefs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamber Members Speak</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Committee Sign Up List</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>News &amp; Happenings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamber Calendar</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Sample Tools

We’re On A Mission...

We just launched a campaign in the City of Cloverdale, in Sonoma County, for all small businesses in the area to participate in the Small Business Energy Alliance (SBEA) Energy Savers Program.

The City of Cloverdale and the Cloverdale Chamber of Commerce have officially endorsed the SBEA Energy Savers Program, a community initiative designed to help small businesses lower their energy bills and reduce greenhouse gas emissions with minimal effort and with cost offsets.

Our goal in the City of Cloverdale is for 100 percent of small businesses to participate in the program by having a free on-site energy evaluation at their facility. This site will keep you up-to-date on all campaign developments.

To arrange a free energy evaluation at your business, call (800) 881-SBEA or click here.

“"Our goal is to get 100 percent of small businesses in The City of Cloverdale to sign-up with this program. This will be no easy task, but with your support, we can all come together to help the environment and to set an example for other communities throughout the County of Sonoma, the State of California and even the nation." — Ludano Toninato, President, Cloverdale Chamber of Commerce”

This program is funded by California utility providers and administered by Pacific Gas & Electric Company under the auspices of the California Public Utilities Commission, through a contract awarded to The Energy Nexus Association. California customers who choose to participate in this program are not obligated to purchase any additional services offered by the contractor. Funding is limited and the program is available on a first-come, first-served basis while funding lasts. These trademarks used herein are the property of their respective owners.
Results

- 30 percent response rate
- 60 percent of respondents reported recommending the program to more than one other business owner in the city
- 100 percent participation rate was unrealistic due to unforeseen customer qualification issues
- City considering offering redevelopment funding for customer portion of program cost and other EE assistance
- Reporting emissions reductions to city - Helping city to achieve official greenhouse gas reduction commitment
- Diffusion outreach programs work so well that you need to make sure installers can keep up with demand – backlog can lead to diffusion of negative program perception (avoided in this case)
Impact of Various Communication Channels

How did you first hear about the program?

Note: 30% reported hearing about it through more than one channel

Copyright 2008 Geltz Communications
Seeking Information Before Making Decision

Did you discuss the program with anyone else before you made your decision?

% of Respondents

Information Source
Physical Distribution of Customer Sites
Example: Utility DR Thermostat Program

- Small commercial two-way load control thermostats
- Free thermostat and end-of-season incentive
- Offered service territory-wide
- Low response to direct mail
- Especially in six cities in key desert area
- Expedited time frame (two weeks) specified by program manager
- Mid-summer!!
Diffusion Strategy

- Organized an internal/external promotion team on which everyone won something
- Positioned field rep as small business consultant (cross market other utility offerings for small business)
- Used EE program CFL as foot in door
- Designed as a community blitz
- Recruited opinion leaders first for the program and worked through them
- Softened market with media releases
- Fanned out in person with pre-qualified list
- Met and debriefed each day – shared opportunities, tweaked program
Results – in TWO WEEKS

**Comparison of Yield Rates:**
Direct Mail Vs. Full Diffusion Outreach
(Backed Up by Local Mass Media, Utility Public Affairs and Corp Comm)

<table>
<thead>
<tr>
<th></th>
<th>Direct Mail</th>
<th>In Person: Cold Calling</th>
<th>In Person: Utility-provided, qualified list</th>
<th>In Person: Chamber of Commerce List</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Thermostat Applications Rec’d</td>
<td>1%</td>
<td>18%</td>
<td>30%</td>
<td>82%</td>
</tr>
<tr>
<td># of Thermostats Requested in Applications</td>
<td>1.5%</td>
<td>27%</td>
<td>47%</td>
<td>150%*</td>
</tr>
</tbody>
</table>

*Yield rate is greater than 100% because many requested multiple thermostats.*
Customer Evangelist

- Geltz Energy Team Member Michele Zack (left) and Marianna Carbajal
- Owns Easy Travel & Services in Cathedral City
- English is second language
- Interviewed on local English- and Spanish-speaking television about program
- Wanted to host energy reception for other business owners and Hispanic C of C members
Communication Impacts

- Persuasive features (in order):
  1. Saving money
  2. Saving energy
  3. Rebate
  4. Free thermostat

- 75% said they decided for themselves, 25% talked to someone else first

- 80% recommended program to another business owner

- Many understood purpose of demand response program; said they were motivated by community need as well as incentives/benefits
Emergence of Adoption Clusters
Key Concepts

- **Organize an internal/external promotion team** on which everyone wins *(Ask me for a practical blueprint for this)*
- **Combine** diffusion-based marketing with traditional approach
- **Re-direct paid advertising dollars** into messaging/channels that create longer-lasting impact and momentum for culture change
- **Cross-market** and leverage available offerings for the target market segment
- **Sign up local opinion leaders first** for the program and leverage their endorsement
- Discover channels and success stories **throughout campaign**
- **Use community “all in this together” mindset**
- **Encourage customers to become program advocates**
References


http://www.stanford.edu/class/symsys205/Diffusion%20of%20Innovations.htm

Christine Geltz
President
Geltz Communications, Inc.
Tel: 626-568-8412
chrisg@geltzcomm.com