Finding the X-Factor: Designing Programs So Customers Actually Care

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ABSTRACT

Many utility programs and products, particularly those dealing with energy efficiency and demand response, have been designed from specific needs of the utility, as opposed to starting with the customers' needs. While this is an inevitable outcome of demand-side planning, there are ways to make current programs, and future products and services, as well as marketing approaches more attractive to customers. Traditionally cited key barriers to adoption of energy efficiency include upfront costs, technology problems, and lack of time. But recent research suggests that certain ideas and products become popular for a host of reasons that do not show up naturally in these barrier analyses. By taking those research findings and applying them to the energy efficiency and utility products field, we can discover sweet spots of program offerings and marketing approaches that can drive more uptake in the broader marketplace.

The five key elements that drive this X-Factor of program adoption are:

- *Social Capital:* Such as elevating one's status or having unique knowledge.
- *Triggers:* Having frequent reminders during normal life/work.
- *Emotional Connection:* Touching on key feelings such as happiness or anger
- *Social Norms:* Comparing actions to peers.
- *Practical Value:* Straightforward benefits (the one that efficiency has already).

The author has analyzed two current energy efficiency program designs and marketing approaches against these five elements and suggests alternative approaches, with potentially superior success. Then, three emerging programs and product areas are presented, each with its own unique opportunity to improve the utility's relationship with their customers, and also improve the environment.

Factors Determining Market Acceptance and Favorability

Marketing techniques evolved at a rapid pace over the past 100 years as mass media took hold across the US and most of the world. In just the past 5-10 years, the addition of social media through the Internet has greatly changed the landscape of marketing. Communication has become easier, cheaper, and certainly more abundant. For example, according to the CMO Survey, marketers continue to increase spend on social media (Moorman 2012). Through 2017, marketers across a broad range of industries expect to spend 19.5% of their budgets on social media, almost three times more than the current level. And the number of employees dedicated to social media almost doubled just in the past year in the companies responding to the survey.

While these numbers are impressive, they place a new burden on the mind of consumers. How is someone, or a business, going to process the deluge of marketing information? What factors will determine whether a particular product or service is worthy of our time, and then whether we will act on that new knowledge or not? By looking at past performance of a wide

variety of marketing efforts, Berger identified five key factors to gain market acceptance, increase favorability, and make programs and marketing more memorable:

- *Social Capital:* Social capital reflects a person's (or business's) standing and perceived value in their community. Most humans prefer to increase their social capital in their millieux, whether that be among their peers in a management meeting, on the club volleyball team, or among a group of friends (Sander and Lawney 2006). At the core of social capital is trust; can others trust this person's information, guidance, and character? Similarly for a business, is the information provided by them credible and trustworthy? This is one important component of brand strength. For example, if a business or residential customer trusts their source of information on energy efficiency, this can eliminate a significant barrier to adoption of a DSM program.
- *Triggers:* As noted above, people are bombarded with messages every day, whether they come from personal and work emails, radio and TV ads, product labels, or just conversations in general. Even if a marketer does a great job of convincing someone to participate in a new program or buy a given product, would they do it again or simply forget? Or if someone intended to hire a contractor to insulate their home but have never gotten around to it, what would trigger the thought to reengage to get the work done? By establishing connections to everyday, existing triggers, marketing can improve their odds of influencing customers without needing a particular marketing engagement. For example, seeing your neighbor's rooftop photovoltaic system may be a trigger or reminder for you to look into getting your own.
- *Emotional Connection:* While not a new concept with marketers, creating an emotional connection is something that is often overlooked in creating both DSM program designs and its associated program outreach and marketing. But emotions are not all created equal. It turns out that some emotions create a deep-seated need to act, and other emotions actually elicit fear and passivity. One example of research into emotional effects on purchasing behavior (both residential and business) places emotions into very specific categories of influence (Walden and Janevska 2013):
  o Destroying Cluster: The following eight emotions proved to lower the value of the product and company customers engaged with: *Irritated, hurried, neglected, unhappy, unsatisfied, stressed, disappointed, frustrated.* In other words, during the customer experience, if customers encountered any of these eight emotions, then the result was a degradation in perceived value and an unlikelihood of repeat business. One can imagine certain interaction with a call center eliciting frustration, or a promise of energy savings not being delivered as causing the customer to feel disappointed, unhappy, and unsatisfied.
  o Attention Cluster: The following emotions are often used to develop interest in a product or company so that a customer can learn about its benefits and features: *Energetic, indulging, stimulated, exploratory, interesting.* These emotional elements drive desire in learning more about a product, trying it, and buying it. For example, a NEST thermostat may appear as indulging, exploratory, and interesting all at the same time due to its newness, "exclusive" price point, and difference from normal thermostats.
  o Recommendation Cluster: These emotions start to create real stickiness in the mind of customers: *Trusting, valued, safe, cared for, focused.* The corporate brand is

intertwined in these emotions, as is the whole customer experience. Customers who have these emotions are likely to speak positively to others about their experiences.

- o Advocacy Cluster: The emotions of *happy and pleased* are placed at the highest point in the emotional pyramid. These emotions were most likely to result in repeat business, and in creating customers who become true defenders of the product or brand. While this may be a reach for utility companies, one can imagine achieving these emotions when helping a low-income family become comfortable in the winter through a weatherization program.

- *Social Norms:* Working with consumer and business social norms has been the backbone for the recent surge in behavior-based DSM programs (Ashby et al 2012). Not surprisingly, social norms also appear on this list of critical elements to create consumer demand for products and services. Social norms are essentially defined as our collective expectations for behavior in our given environment (McLeod 2008). Sociologists and marketers can use knowledge of social norms to change behavior. For example, norms are used in the health and safety fields by communicating that most people behave safely (such as wearing seatbelts, not taking drugs, or not smoking) as opposed to common understanding that others partake in risky behavior.

- *Practical Value:* Of the five elements presented, practical value is the one most often connected with issues like payback, return on investment, time savings, and other obvious benefits. It appears on the list because, despite all the other influences, products that are practical and save us money and time are attractive.

Revamping Demand-Side Management Programs for Greater Favorability

Given the very aggressive goals utilities and states are setting for energy savings, developing methods to increase the market penetration of current programs is paramount. A wide variety of market barriers to participation in programs have been cited over many years, including first cost of investment, split incentives between the tenant and landlord, uncertainty in savings and paybacks, lack of trust of the provider of services, and lack of time (Volker 2010). However, the utility industry is always seeking, and finding, methods to improve its marketing effectiveness. Increasing marketing return-on-investment by lowering the cost per acquired customer can improve overall cost effectiveness and can lead to added energy savings. But better program marketing and communications can also create more satisfied customers who are then more likely to participate in other utility programs (E Source 2012), and also use their word of mouth to bring their friends and family into programs.

By looking at current standard utility efficiency program designs and marketing approaches, we can start to dissect the elements we could improve based upon the five core elements of success outlined in the prior section. Two different programs are analyzed, with the author's recommendations for changes and alterations to create greater program uptake.

Residential Whole House Programs

Many utility and government energy efficiency programs focus on a wide variety of energy upgrades to homes and other dwellings. Home Performance with Energy Star is one model for such a program. These programs usually start with an energy audit, then cost effective upgrades are recommended, the customer chooses the ones they wish to invest in, and their

chosen contractor performs the work. Sometimes there is financing involved, and typically there are utility, state, and federal rebates or tax credits that can offset some of the costs.

- *Social Capital*: Under normal circumstances, whole house efficiency programs lack social capital. The improvements that are made to the homes are invisible, primarily air sealing and added insulation. Even Energy Star appliances are fairly ubiquitous and garner little interest from friends and relatives who visit the home. To add social capital to the programs, some changes can be made that primarily involve communications and marketing. One idea is to provide a visible icon to homes that have gone through a program. This could be as simple as a decal on a front window or a yard sign while the work is being done. Another way to increase social capital is to make the home a positive example to the neighbors by highlighting the work and the benefits either in the local newsletter, or by hosting an "energy upgrade party" to have neighbors come take a tour of the changes.
- *Triggers*: Whole house programs possess some triggers to remind the customer to upgrade their home. The key triggers are the monthly bill which is deemed to be too high, and homes that are uncomfortably warm or cold. But other market barriers are often too much to overcome these mild triggers. One idea to create more triggers is to connect the bill to rebate programs directly, essentially reminding the customer whenever they pay that there are methods to lower their bills. Some online billing portals are doing this already, including PG&E (Tinjum 2014) and Portland General Electric (portlandgeneral.com 2014). Another method is to provide reminders about whole house programs in places where people typically shop or congregate, such as when people purchase light bulbs, energy star appliances, or caulking materials.
- *Emotional Connections*: Whole house programs can elicit fear, uncertainty, and confusion when someone thinks about making a big investment in their home, all emotions that are in the Destroying Cluster outlined above. So it's critical that the program design incorporate elements that exude competence, trust, and empathy, which fall into the Recommendation Cluster. One approach that has worked well in several places is using an "energy advisor" to walk the customer through all the steps of the process (Hutchings 2013). In addition, marketing communications can take advantage of strong emotions such as comfort, safety, coziness, and protection from outside weather. These types of emotional communications can be used in ads, instead of focusing only on monetary savings.
- *Social Norms*: Similar to social capital, social norms can be used by comparing other households to those of the target customer. People don't want to feel out of step, so it may influence participation. This is a method that has been used successfully to create a conservation effect through home energy reports for a company called Opower (Ashby et al 2012), and could also be used to drive whole house weatherization, for example.
- *Practical Value*: Typical marketing of whole house programs already emphasize the practical value of weatherizing and upgrading the home.

Residential Lighting Programs

Many utilities run programs in which they encourage efficient lighting in homes. Over the past decade or more, utility lighting programs have primarily promoted CFLs for energy

savings. While the CFL programs had *practical value* from a monetary standpoint, they lacked superior attributes over incandescent bulbs in most of the other factors.

While they can save energy, CFLs also have some downsides when compared to traditional incandescent lamps, and these hamper their adoption. These downsides have included the following factors: high up-front cost, slow start up to get to full light, inability to work on dimmer switches, poor light color, poor performance in the cold, and disposal concerns due to mercury (Lefevre and Waide 2006). Despite improvement over the years, CFL's initial poor performance affected customer attitudes for many years. Countering customer's reticence were the widespread promotion of CFLs as a great first step in becoming more environmentally friendly (Energy Star 2014), and often used as a symbol for efficiency. But the consumer's negative experiences with the CFL at times extended to other efficient technologies; hampering progress in other efficiency arenas.

Quickly reviewing CFLs against the five criteria for success, we find:

- *Social Capital*: In some circles of environmentally savvy people, CFLs could be seen as having social capital. CFLs are unlikely to have social capital in other circles, and they are generally invisible to others unless they have problems such as flickering or poor color rendering.
- *Triggers*: In general, lighting has constant triggers, as we all turn lights off and on every day. In addition, any time a light burns out there is another trigger to make an additional purchase decision.
- *Emotional Connections*: In certain environmental circles, there can be positive emotional connections with CFLs. But CFLs are likely to cause some negative emotions in some segments due to their somewhat inferior performance compared to incandescents. These emotions could include frustration, disappointment, and even fear if the lamps break and spread mercury; again, these are part of the Destroying Cluster. In addition, as the Federal lighting standards went into effect, CFLs were sometimes cited as being forced upon the public instead of giving consumers a choice (Veverka 2011).
- *Social Norms*: CFL sales are likely to have benefitted from social norms over time, as people do not want to appear completely out of step with the progressive nature of CFL adoption.

Fortunately, the emergence of LED lamps could cause a major shift in the attractiveness of efficient lighting. LEDs have physical attributes that allow them to better match the incandescent, including dimmability, instant light when switched on, no disposal issues, good color rendering, excellent cold weather performance, and no flicker. But in addition to these positive physical features, LEDs have the possibility of meeting some of the more important elements of product uptake:

- *Social Capital*: LEDs are starting to be seen as an avant garde appliance, as opposed to simply a lamp. LEDs are promoted with a "cool" factor, and a particular product, the Philips HUE, not only can change color depending upon one's mood, but is also controllable from a smart phone.
- *Triggers*: LEDs have the same triggers as other lights as mentioned above, with the possible addition of being seen when others are controlling their lights with their smart phones.

- *Emotional Connections*: LEDs are more likely to be associated with positive emotions due to their lack of inherent downsides compared to CFLs, and even traditional bulbs. They also have a potential upside, as promoted by Philips in ads, that depict changing bulb color to help you go to sleep, wake up in the morning, concentrate on work, create a romantic mood, or scare away burglars (Philips 2014). While those promises are a stretch, they go way beyond what a CFL could provide.
- *Social Norms*: LEDs have the potential to create a social norm not only for energy savings, but for a more modern approach to lighting. Like smart phones, no one wants to feel like they are out of place with the times. However, the relative invisibility of lights in a home or business is likely to hamper the ability to use social norms as a big driver. But it could be used in promotion as LEDs become more ubiquitous, such as saying "2 out of 3 homes have at least one LED lamp; how many do you have?"
- *Practical Value*: LEDs do cost more than regular incandescent bulbs or CFLs, but they also save energy and last an extremely long time, adding to their value. They already are seen to have a superior return on investment by some assessments (Moloney 2013).

Emerging Utility Programs that Fit Success Criteria

Ideally, programs and their associated marketing approaches would be designed from the ground up using criteria for success. Using our new set of five elements, we can discover potential new or emerging utility programs that could thrive in the marketplace, and give utilities a more modern brand in the eyes of their customers. Three different programs are described below, each which meet most of the criteria for broad success.

Smart Thermostat Programs

Smart thermostats, and associated utility programs, show potential for expanding the relationship that utilities have with their customers, increasing customers' involvement with their daily energy use, and simply saving energy. Quite a few different smart thermostats are on the market, but the key differentiator of this new generation is their ability to communicate back and forth to other devices over the web. Some have learning capabilities: they discover living patterns through observation, and they also adapt according to how the unit is changed by the user. Some even promise to communicate with weather forecasts to anticipate their heating and cooling needs (Buckley 2014).

Utilities are just beginning to explore the opportunities that smart thermostats provide for both demand response and for conservation effects. For example, a 2011 pilot program at National Grid found 16% electric savings in the cooling season, and 10% gas savings in the heating season (Buckley 2014).

But beyond energy savings, smart thermostats can create new, positive connections with customers. Looking against the five success factors:

- *Social Capital*: Imagine sitting at happy hour with friends, taking out your smartphone, and sending a signal to your thermostat to delay turning on the air conditioning until 8pm. Some of your friends may be quite interested in discovering this new "toy" that can also save money and increase comfort.

- *Triggers*: People are using their smart phones constantly, and every time a person or the people in their vicinity use a smart phone, there's a trigger for the possible use of a thermostat app. In addition, utilities could send out text messages that relate to hot or cold weather, rising energy bills or other information that could form additional direct triggers for actions.
- *Emotional Connections*: If a utility had a smart thermostat program, it could lead to its customers believing the utility was more progressive, as well as more concerned about its customers' bills. E Source research shows that customers who participate in utility efficiency programs have higher satisfaction (LeBlanc 2013).
- *Social Norms*: While it is too early to determine whether smart thermostats will become ubiquitous, Google has made the assumption for us, purchasing NEST for an astonishing $3.2 billion. They obviously believe that home area networks will be a huge business area in the near future. If utilities can become a partner in home controls, customers are likely to perceive them more favorably.
- *Practical Value*: As shown earlier, these thermostats could save customers money off their energy bills, and provide added convenience.

Promotion of Electric Vehicles

Electric vehicles (EVs) offer the potential for changing how customers perceive utilities. They also represent a huge potential new residential load. Many utilities that E Source works with are currently seeking ways to promote beneficial electrification; EVs not only can help balance out the daily load profile, but they also have the potential to lower overall carbon output, as well as local air pollution.

Consumers purchase cars for many reasons other than pure transportation. Some relish added power, others like features and gadgets, and still others like to drive status symbols. The Prius, which had a very unique look, greatly outsold the Honda Civic hybrid even though their mileage statistics were similar (Dunn 2010).

Utilities have a unique opportunity to promote electric vehicles as a new form of transportation that is economical, better for the environment, and conveniently "filled" at home instead of the gas station. The utility is selling the fuel; to encourage use of that fuel, they can promote the general adoption of electric vehicles. This product does well in meeting the success criteria as follows:

- *Social Capital*: Automobiles are often seen as the epitome of a status symbol. Neighbors, friends, and relatives can see the car in your driveway. Markets are seeing some early trends in this arena, where the Tesla (all electric, high-end automobile) was the number one selling car (in the first eight months of 2013) of *any* brand in eight of the wealthiest zip codes in the U.S. (Caldwell 2013).
- *Triggers*: Automobiles have many strong triggers: people drive and/or see cars every day; a visit to the gas station is a negative experience, and a trigger; some states allow EVs to use the carpool lane even with one driver. But in addition to those existing triggers, utilities could help brand electric cars by working with EV manufacturers and dealers to make existing EVs become mobile billboards. As long as the EV owner believes that their car provides them social capital, they should relish the opportunity to have others know that their car is running on electricity.

- *Emotional Connections*: Early EV owners show extremely high satisfaction with their vehicles. In a recent Consumer Reports survey, the all-electric Tesla was the top ranked car in satisfaction, and the Chevy Volt (hybrid electric car) tied at third with the Porche 911 (Reuters 2013). It's that type of emotional connection that not only creates strong connections for the owner, but also could turn them into word-of-mouth advocates.
- *Social Norms*: Tesla and Toyota have both used the power of social norms to create new markets for their plug-in vehicles. They are moved into markets that were most ripe for new sales, and there was even a paper written about this social norming using the phrase "The Prius Effect" (Campbell 2011). When people see others using a product or doing an activity, they are more likely to engage themselves. As mentioned above, the high concentration of Tesla sales in small regions reflects the strong effects of social norms.
- *Practical Value*: EVs can have practical value beyond what internal combustion cars can provide. First, on a per mile basis, they are very inexpensive to drive. For example, the website www.fueleconomy.gov notes that the 2014 Nissan Leaf only costs an average of 90 cents to drive 25 miles. Second, they eliminate trips to the gas station. And third, they have very limited need for routine maintenance, with the engine have almost no moving parts.

Promotion and Sales of Photovoltaic Systems

The costs of rooftop photovoltaic (PV) systems have dropped dramatically in the past few years, and demand has also rapidly risen. While still a very small percentage of the overall load of any utility company, rooftop solar is poised to grow and possibly be a significant part of the overall electric portfolio in the coming years and decades. Vendors that include Solar City and Home Depot have made the purchase or lease of PV systems much more mainstream than they have been in the past. As a result, some utilities have reacted with the proposal of new fees, or reductions in subsidies, for rooftop solar, and these proposals have been met with loud protests from the PV vendors and some solar advocates.

One solution to this issue of growing demand for PV, possible utilities revenue losses, or negative utility press, is for utilities to embrace PV and create a business model that supports it more fully. Since customers appear to prefer solar over other new energy options (LeBlanc 2013), it seems a logical place to seek new products to offer for the utility. Utilities do not have to offer rooftop PV only. They could offer neighborhood scale utility systems where specific customers can buy a share of that larger system and benefit from the output. Short of that, utilities could partner with a wide variety of solar vendors, like they often do for weatherization and equipment efficiency programs, and support the development of the business through marketing and technical support. Below, the PV business is mapped into the five success criteria.

- *Social Capital*: Like some automobiles, rooftop PV can be seen as a status symbol, with the system being a visual icon on the roof. In fact, customers who purchase electric vehicles tend to also have a relatively high ownership level of PV systems (Haddow 2014).
- *Triggers*: Many triggers exist for PV systems, most notably seeing another person's house with a system on it. In addition, a high energy bill can be a trigger, as can a smokestack spewing smoke.

- *Emotional Connections*: Some customers, primarily those with a strong environmental orientation, are most likely to have an emotional connection with having a green form of power.
- *Social Norms*: The Prius Effect, mentioned earlier, can also be tied to PV systems. The more systems that are in a neighborhood, the more likely that social norms will come into play in others trying to keep up with their peers. Solar sales tend to be concentrated in wealthier neighborhoods, adding to the speed of market penetration from this factor.
- *Practical Value*: PV systems are on the cusp of being a practical solution for homeowners in areas with good solar access. Saying that another way, this is the first time in history that the costs of owning and operating a rooftop PV system is nearly on par with the costs of purchasing power from the utility in many service territories. This, in turn, opens this market to those who are not willing to pay a premium for the environmental or social capital benefits.

Conclusion

By looking through a different lens of success, new opportunities arise in rejuvenating existing efficiency and demand response programs, rethinking marketing approaches and also in offering new, expanded services. Using five criteria for success outlined in this paper, one can observe that demand-side management programs do not inherently meet the conditions except for *practical value*. However, by using the criteria to design the marketing approaches and to tweak the program designs, there may be a good chance to improve uptake.

In addition, utilities can be looking at newer programs, products, and services that are more in tune with customer needs and wants; in particular, smart thermostat programs, electric vehicles, and photovoltaic systems appear to match well with their positive attributes against the five success criteria outlined in this paper. Overall, utilities can improve their brands and potentially increase the uptake in efficiency and value-added programs by continuing to follow customer-centric principles.

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