

BECC 2015

Reaching Customers at a Critical Moment: The Impact of Exposure to Total Lifecycle Cost Information During Online Product Search



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Background

- Energy efficiency usually not an influential factor in appliance purchases
 - Key factors: Features, capacity, color, and up-front cost
 - Efficiency information often hard to find and/or understand
- Point-of-purchase (POP) efficiency and energy saving messaging can be effective
 - Fewer opportunities to leverage POP messaging as traditional downstream rebate programs begin to disappear

How can we best connect with our customers, give them useful information, and encourage them to make energy efficient purchase decisions?



PG&E Marketplace, a “Smart Energy Marketplace”

- Enervue online platform: a “kayak.com” for Res energy efficient appliances and electronics
- Goal: Enable PG&E customers to conduct real-time, personally-relevant research
 - Images
 - Reviews
 - Tips for use
 - Purchase price
 - Vendors and vendor locations
 - Incentives/rebates
 - Energy efficiency score
 - True lifetime cost
- Includes **PG&E Rebated** and **Non-Rebated** Products



What Customers See



Find energy-saving products
Search, filter & compare the most energy efficient models.



Find energy efficiency rebates
Lower your energy bill and save even more with rebates.



Know what's popular
We analyze sales and user reviews from leading retailers.

These categories feature PG&E incentives



Clothes Washers



Electric Water Heaters



Gas Water Heaters



Refrigerators



Televisions



Freezers



Electric Dryers



Comparison of Washers







Save on your bill and **get an easy rebate.**

Shop energy-smart to cut your electricity cost, get a PG&E rebate and find the lowest price. Click on the [Search & Filter](#) button to find the model that is right for you and get your rebate application processed right away.



130 of 130 Washers

[Search & Filter](#) ▼

Model	Energy Score ⓘ	Capacity	Purchase Price	Energy Savings ⓘ	Rebate
LG WM3170CW  ★★★★★ 	 88	4.3 Cubic Feet	\$645	up to \$256	up to \$150
Samsung WF42H5000AW  ★★★★★ 	 85	4.2 Cubic Feet	\$630	up to \$269	up to \$150



Energy Score



Samsung WF56H9100AG Washer

From 156 user reviews. It's in the Top90 best selling products.



The Samsung WF56H9100AG is a 5.6 cubic feet front load clothes washer with a water factor of 2.7 (lower is better).

Today's lowest price is \$1,400.

100

The Samsung WF56H9100AG has very low energy use and is rated as **ideal**.

\$145
SAVINGS

Your estimated lifetime **electrical energy savings** vs. a basic new washer.

UP TO
\$150
REBATE

This model is eligible for an energy efficiency **rebate**. Customers of PG&E and participating water agencies only.

Energy Score. This Samsung washer has ideal energy usage.

The Samsung WF56H9100AG uses much less energy than comparable models. The Energy Score for Clothes Washers is calculated based on cubic feet of volume per kWh per cycle that we convert into an easy to understand rating from 0 to 100 (best).

100
Samsung
WF56H9100AG





Customized Operating Costs

Energy Savings. How much can you save owning the Samsung WF56H9100AG?

Show cost for: 12 years

Use per week: 8 loads

\$478

Basic Model

-

\$333

Samsung
WF56H9100AG

=

\$145

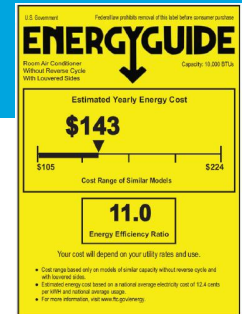
Electrical Energy
Savings

This is an estimate of how much electrical energy you would save with the Samsung WF56H9100AG vs. a basic new washer similar to this model. If you are replacing an older model at home your bill savings might be even higher.

- TVs – hours per day; Fridges and Water Heaters – years of ownership;
- Savings assume average PG&E Residential Rate (approx. 19 cents per kWh)



Why is Customization So Important?



Because average information can be misleading!

Figure 1: Annual Cooling Hours by State

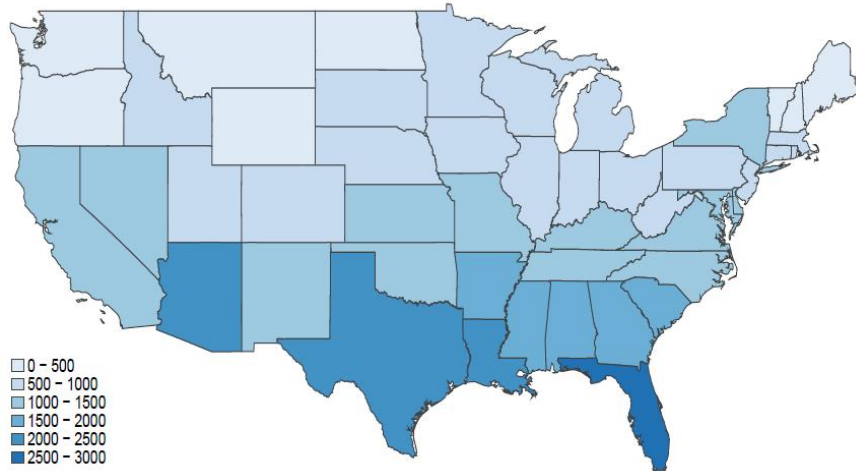
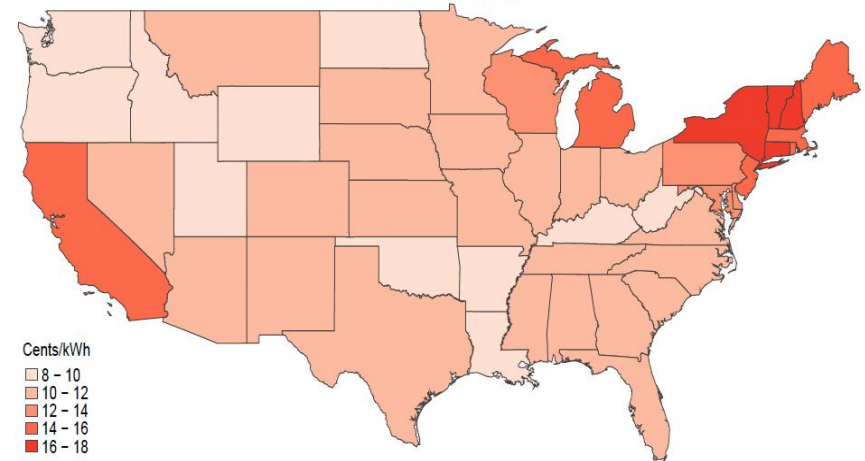


Figure 2: Residential Electricity Prices by State

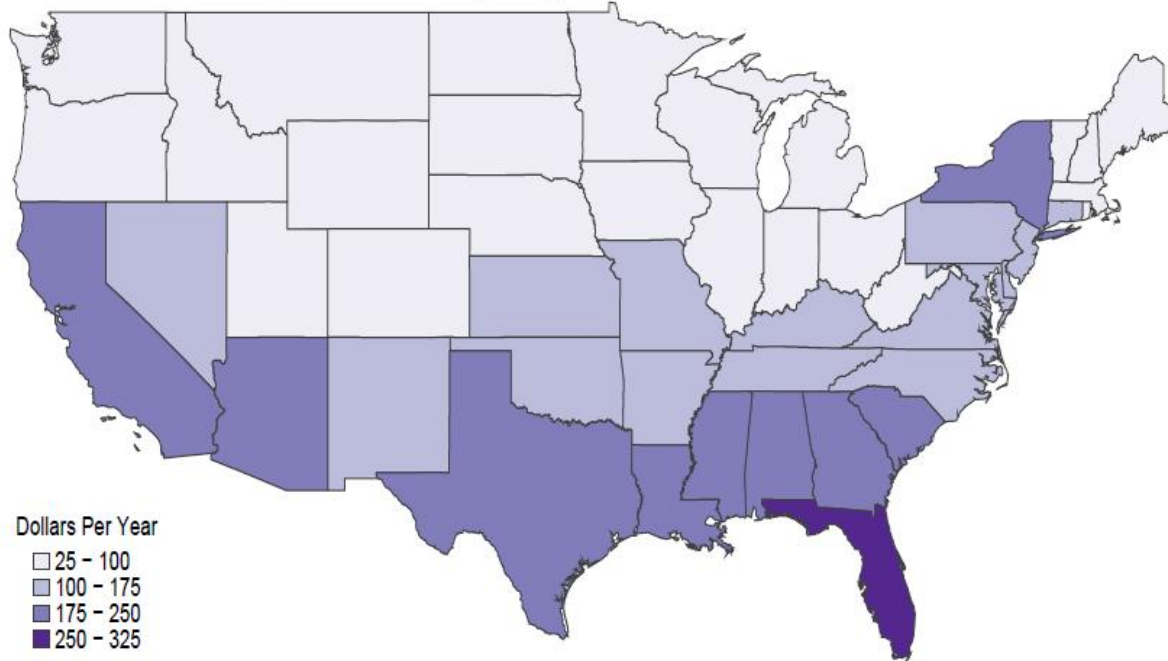


Source: Davis and Metcalf, 2014 (updated 2015); “Does Better Information Lead to Better Choices?”



Jurisdiction-Specific Operating Costs

Figure 3: The Cost of Operating a Medium-Sized Room Air Conditioner

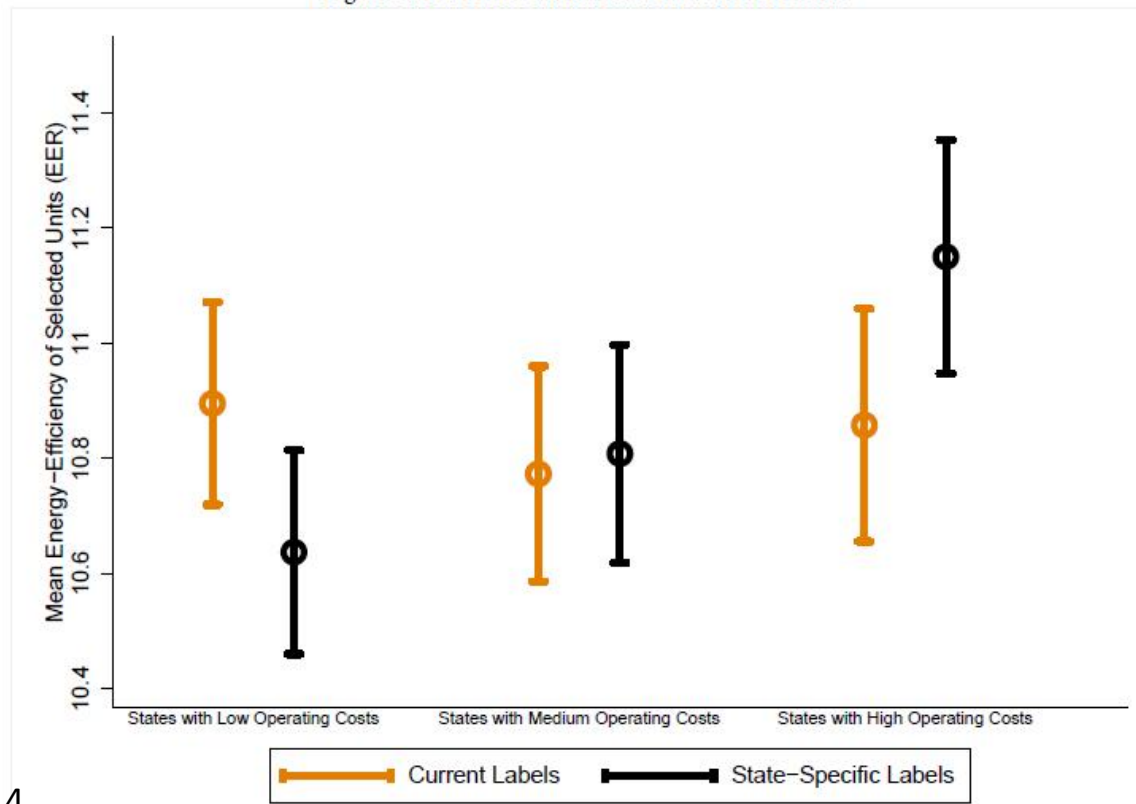


- Davis and Metcalf (2014): state-specific Energy Guide labels enable informed purchase decisions:
- high Operating Cost state
→ more likely to buy high EE than control group
 - low Operating Cost state
→ less likely to buy EE than control group



Yes, better labels enable better choices

Figure 5. Do Better Labels Lead to Better Choices?



Davis and Metcalf, 2014



We THINK this happens – how to KNOW?

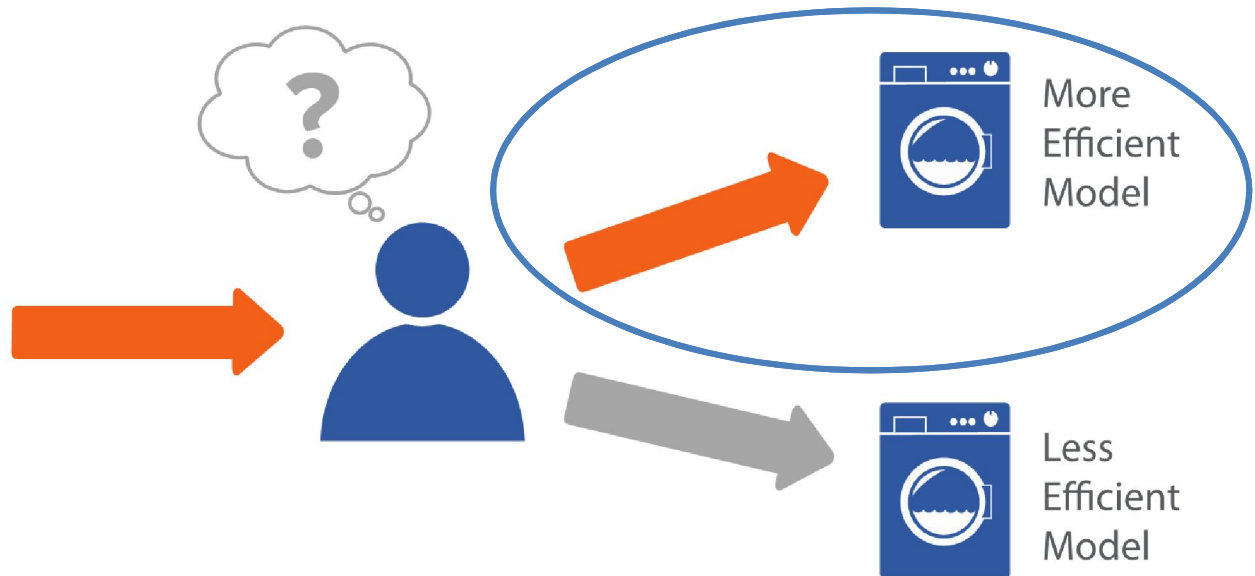
Marketplace

Save on your bill and **get an easy rebate.**
Shop energy-smart to cut your electricity cost, get a PG&E rebate and find the lowest price. Click on the Search & Filter button to find the model that is right for you and get your rebate application processed right away.

UP TO \$150
rebate
search

130 of 130 Washers

Model	Energy Score	Capacity	Purchase Price	Energy Savings	Rebate
Samsung WF20A6000AB	100	4.5 Cubic Feet	\$1,500	up to \$113	N/A
Electrolux EFLS6000	100	4.22 Cubic Feet	\$1,100	up to \$182	N/A
Samsung WF20A6000AB	100	5.6 Cubic Feet	\$1,400	up to \$145	up to \$100



Need to know what product the customer buys (hard with non-rebated products) – Pledge Card?

Need to know the Counterfactual – online search trends, big box store stocking patterns, sales indicators from big national retailers



Current Study

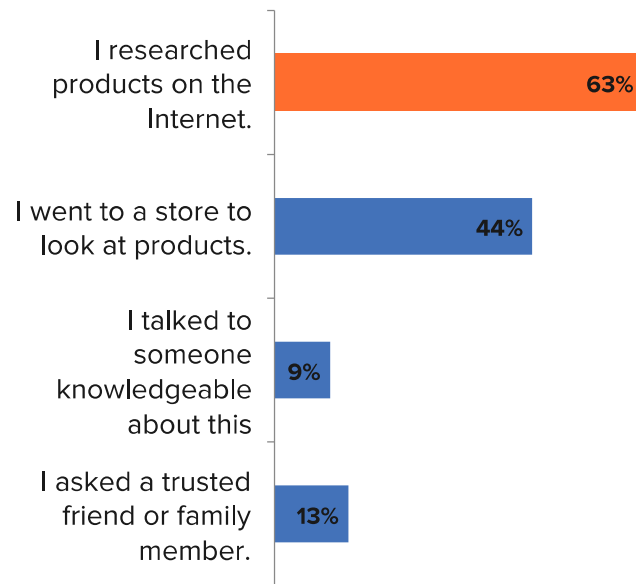
- PG&E and EMI Consulting conducting a market viability analysis to understand usefulness of Marketplace to PG&E customers
- Study components:
 - **Case studies:** Marketplace Users and Non-users - initial telephone interview, web diary of purchase journey, post-purchase telephone interview
 - **Survey** of Marketplace Users - experiences using the website
 - Develop **Key Performance Indicators** to track Marketplace performance over time
 - Assess ability to estimate **energy savings**
- Two main **evaluation challenges**: “moving target” and attribution



Internet is key to purchase process

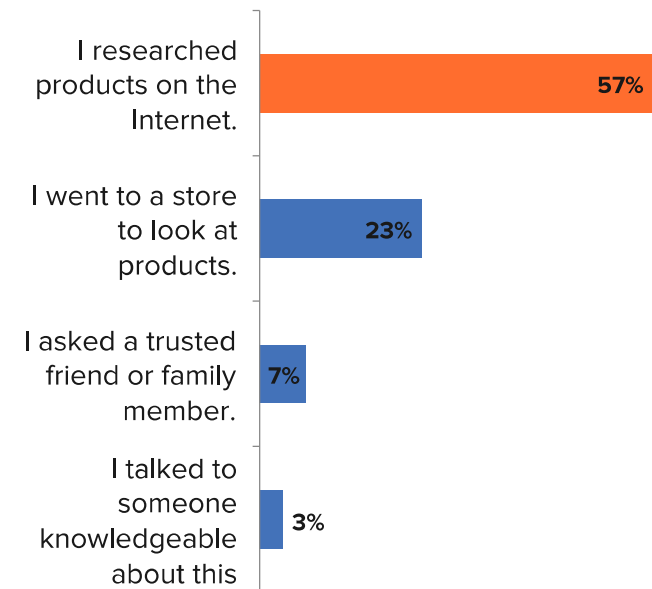
Diaries: Internet sources (including Marketplace) are central to purchase process

Which sources have you consulted in the past few days?



(n = 41)

Which source was most influential?



(n = 32)



Baseline - EE is a lower purchase priority

Pre-study interviews: **Operating cost, energy efficiency, and brand** are least important purchase decision attributes

Purchase Decision Attribute	Mean Importance (1-10 scale)	
Rebates	9.0	More important
Design/visual appearance	8.9	
Specific features (sizing, shape, etc.)	8.3	
Product reviews	8.3	
Price	8.0	
Product availability in retail stores (online & local)	7.5	
Operating cost (i.e. impact on energy bill)	7.3	Less important
Energy efficiency	6.9	
Brand	6.7	

Case study respondents were asked to rate the importance of each of the above attributes on a scale from 1-10 (n = 11)



Baseline – EE and Operating Costs are hard to find

Pre-study interviews: **Operating cost, rebates, and energy efficiency** rated lowest on “ease of finding information”

Purchase Decision Attribute	Mean Ease of Finding Information (1-10 scale)	
Price	9.9	Information is easy to find
Brand	9.4	
Design/visual appearance	8.5	
Product availability in retail stores (online & local)	8.5	
Product reviews	8.1	
Specific features (sizing, shape, etc.)	7.9	
Energy efficiency	7.5	Information is difficult to find
Rebates	6.4	
Operating cost (i.e. impact on energy bill)	5.6	

Case study respondents were asked to rate how easy it is to find information on each of the above attributes on a 1-10 scale (n = 11)



So Far, So Good (but it's early days)

*"I look at the website, click each product and read customer reviews. [I] see prices and product description and look at some cool and high quality dryers for a reasonable price. **Also they have a list of how much you could save – that's good!**"*

*"Took a brief tour of [Marketplace] to understand what it entails. Tested out its functions to see if it's a site I could use for my purchase of a TV. **I liked how it clearly shows the energy efficiency of the televisions.** I browsed around and enjoyed looking at the comparisons. It was easy to navigate and find what I am looking for."*

Diary Entries; Emphasis added



Preliminary Conclusions and Next Steps

- PG&E Marketplace has the potential to **address multiple market barriers** (lack of information, failure to consider/understand lifecycle costs) associated with sub-optimal customer decision-making
- Next steps: **online survey** with Marketplace Users – what is their customer experience? How useful is it to them?
- Assess potential for using Marketplace to claim **energy savings** as a result of intervening with the customer decision-making process
 - Need to know what products Marketplace users *actually* purchase, and what they would have bought absent the intervention

Questions?

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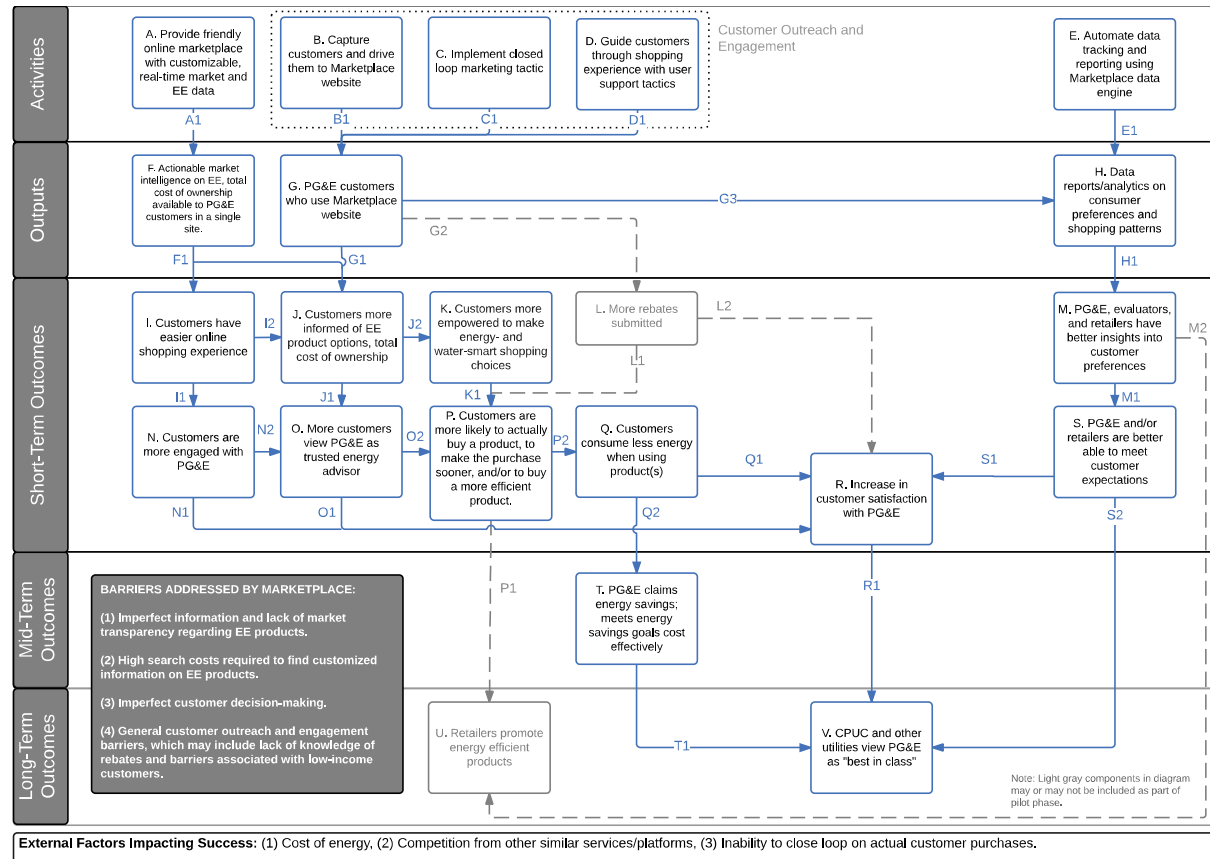
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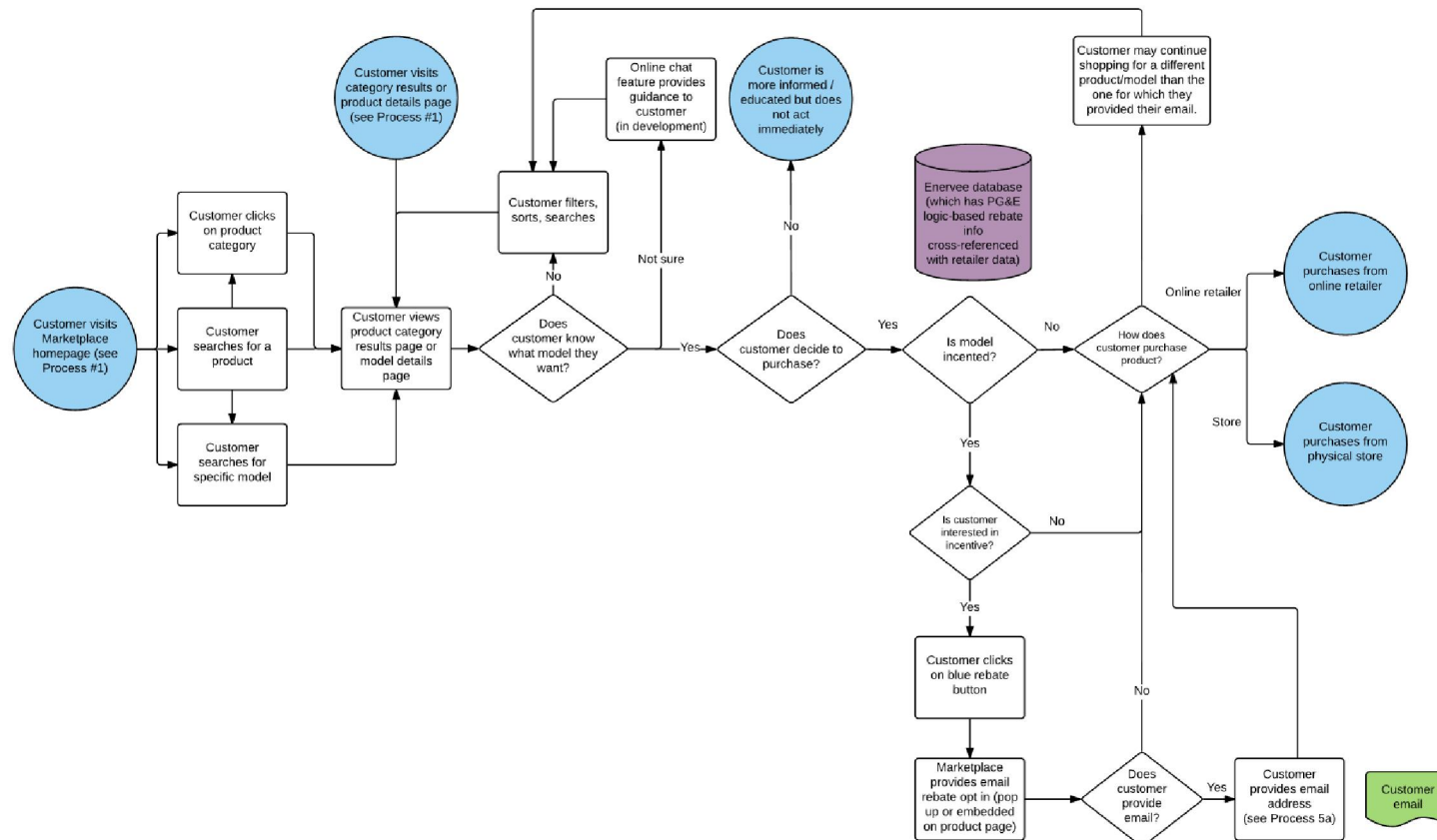


Detailed Theory/Logic Model



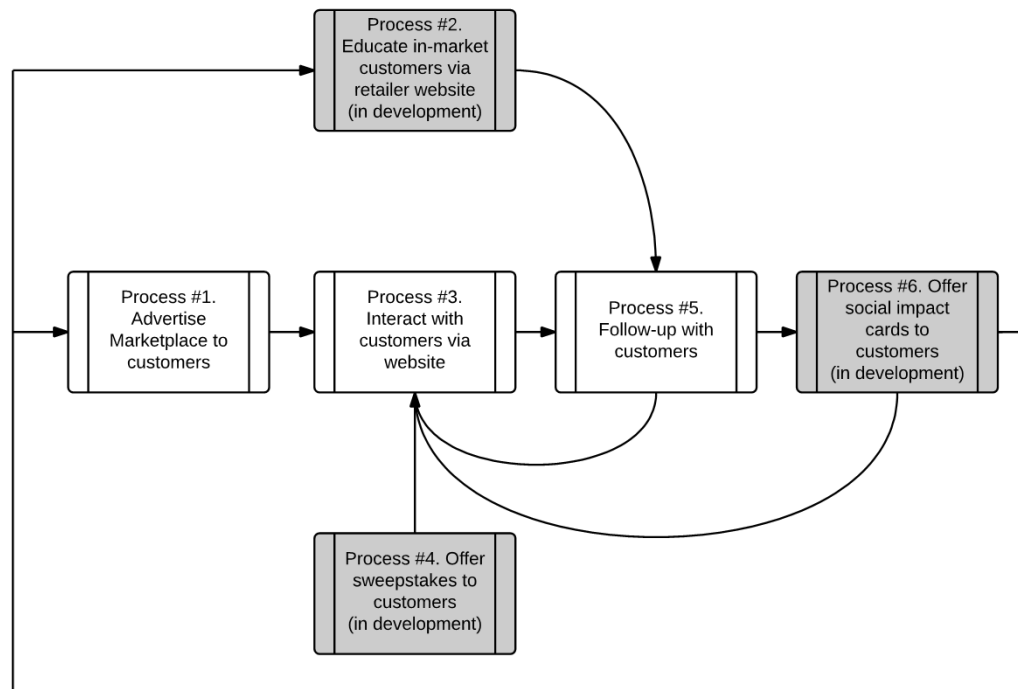


Mapping the Customer Experience





The Bigger Picture





Background / Rationale

“The epicenter of consumer-driven marketing is the Internet, crucial during the active-evaluation phase as consumers seek information, reviews, and recommendations. Strong performance at this point in the decision journey requires a mind-set shift from buying media to developing properties that attract consumers: digital assets such as Web sites about products, programs to foster word-of-mouth, and systems that customize advertising by viewing the context and the consumer.”

- McKinsey and Company Quarterly, June 2009



Some Evaluation Challenges

- The challenge of evaluating a **“moving target”**
 - New features coming online at different times; Uncertainty around the timing of implementation of specific website features
- The challenge of **attribution**
 - How do we isolate the effect of Marketplace on the customer decision?
 - Customers may consult dozens of sources during the purchase process, which may take months to finish
 - Case study component of study will supply qualitative information on both Users and Non-users