

SMUD's IHD Check-Out Taking the “Kitchen Drawer” Out of the Phrase “Mean Time to Kitchen Drawer”

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Powering forward. Together.



Overview

- Overview
- Objectives
- Direct from SMUD
 - Residential Customer Circulation
 - Commercial Customer Circulation
- Sacramento County Library

Sacramento Municipal Utility District Overview

Sacramento County in Northern California

Municipal Electric Utility

- Governed by a Board of Directors

610,000 Customers

- 540,000 Residential
- 70,000 Commercial

Summer-Peaking Load (Air Conditioning)

- Residential Peak: 4-7pm June-September
- Peak load ~3000 MW, of which 400MW = 40 hours

Energy Mix

- Hydro
- Natural gas-fired generators
- Renewable energy
- Wholesale market



In-Home Display Check-Out Overview

Allow customer to check out an IHD via public library or through the mail directly from SMUD at no cost for two-month period. Equipment will be circulated upon return to new customers.

Evaluate impact on energy consumption and customer engagement. Assess internal operations and ability to support third party HAN distribution models.

- CUSTOMER SECTOR: Residential & Small Commercial. Direct from SMUD or Library.
- NUMBER OF CUSTOMERS: ~900 IHDs in circulation, ~1200 check-outs
- CUSTOMER BENEFITS: Instant information feedback of real-time pricing and usage without the burden of purchasing the IHD.
- CUSTOMER REQUIREMENTS: Must go to library or contact SMUD to process the check-out. Library customers must call SMUD to provision the device. Return the device after check-out period has ended.



Pilot Objectives

Pilot Objectives

- Provide customers with immediate access to the benefits of smart grid implementation
- Gauge of the customer's comfort level with energy management devices.
- Gauge customer preferences and the appeal of different features.
- Results from the pilot will contribute to future plans for retail partnership and self-service provisioning programs

Benefits

- Opportunity to set up a logistics and technology infrastructure to support HAN devices that communicate with smart meters.
- Opportunity to test the distribution and provisioning processes for devices SMUD does not supply directly to customers.

“The display tells me when to be concerned so I can be comfortable, stay within budget and live my life.” Jill

Direct from SMUD Residential Customer Circulation



Check-Out Origination

Click on the ad on SMUD's "My Account" landing page and submit a request form or call direct to SMUD.

Processing the Check-Out

- Customer requests IHD from SMUD
- SMUD provisions IHD to the meter
- SMUD mails IHD to customer
- Customer joins IHD to meter
- Customer returns IHD to SMUD via mail

Check-Out Circulation

Goal: 150 IHDs

Actual: 878 IHDs

Total Customers: ~1200

Early Lessons Learned

- Strong customer interest
- Customers integrated into daily lives
- Satisfaction and engagement were high
- Simple to use
- Customers felt empowered
- Inventory control processes are critical
- No marketing campaign needed
- Connectivity and environmental interferences are problematic
- Troubleshooters need to know IHD well
- Customer self-service requests for provisioning and troubleshooting could reduce labor costs
- Labor intensive
- Join rates ~30%
- Return rates ~90%

6 *"I have turned into the parent that walks through the house and turns everything off." Austin*



Direct from SMUD Commercial Customer Circulation



Check-Out Origination

SMUD Energy Auditor to recommend case-by-case

Processing the Check-Out

- SMUD Energy Auditor installs IHD during site visit
- Auditor contacts SMUD support staff to provision the IHD
- Auditor joins IHD to meter
- Customer returns IHD to SMUD by mail

Check-Out Circulation

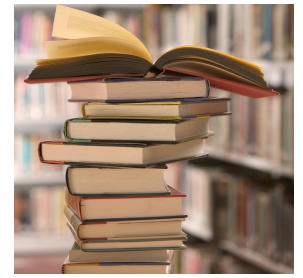
Goal: 0 IHDs (Not originally in scope)

Actual: 3 IHDs attempted, 0 success

Early Lessons Learned

- Programming needs to be customer-specific to account for billing customization (such as billing multipliers)
- The IHD selected doesn't support demand charge tracking.
- Large buildings have environmental interferences and may require several repeaters.
- Repeaters and IHDs may be unplugged in large buildings without proper labeling.
- There is definite interest in this information and type of tool, but this type of device isn't adequate for even small commercial customers.

Sacramento Public Library



Check-Out Origination

Members check one out in the library.

Processing the Check-Out

- Customer received IHD at the library
- Customer calls SMUD to provision IHD to the meter
- Customer joins IHD to meter
- Customer returns IHD to Library

Check-Out Circulation

Goal: 150 IHDs

Actual: 54 IHDs

Early Lessons Learned

- IHD check-out logistics far more complicated than the Kill-a-Watt
- Customers unclear that they need to call SMUD to activate
- Defective device process for returns to manufacturers less clear when the contract is managed by the donating agency (SMUD) rather than the owner (Library)
- Information sharing and disclosures are important planning discussions in order to provide technical support to customers.
- Customers are interested and willing to be put on a wait list.
- Put repeaters in every box.

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