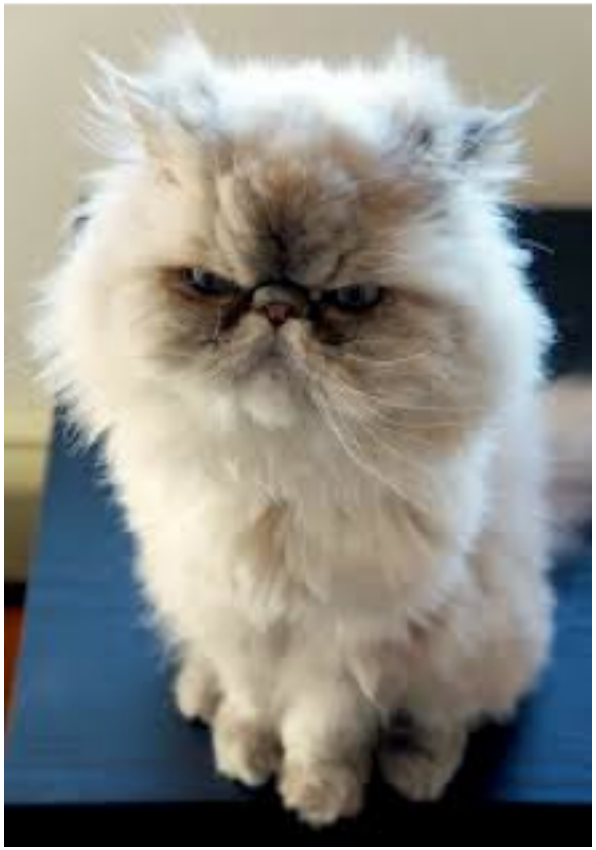
CER Data Report



The Himalayans

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What is the pilot about?

Electricity Customer Behaviour Trial

- Time: 2009 and 2010
- Participants: 5,000 Irish homes and businesses
- Purpose : assess the impact on consumer's electricity consumption to inform the cost-benefit analysis for a national rollout
- Process: Participants had an electricity smart meter installed and agreed to take part in research to help establish how smart metering can help shape energy usage behaviours.

What data was collected?

(1) Smart meter read data

- Meter ID
- Five digit code
  - Day Code: digits 1-3
  - Time Code: digits 4-5
- Electricity consumed during 30 minute interval (in kWh)

(2) Pre and post trial residential surveys

(3) Pre and post trial SME surveys

(4) Allocation file

Trail Implementation

- Trail had a consumer behavior aspect and Technology assessment
- Government installed three kinds of metering technologies
  - General Packet Radio Service (GPRS) communication (cellphone signal),
  - PLC communication (low level voltage lines)
  - 2.4 GHz Wireless mesh (private radio signal)
- Also tested “desktop technologies”: Power Line carries and Wireless tree, to test their ability to serve rural customers
- The study examined the performance in these technologies in automatically scheduling events, midnight register readings and daily load profiles.
- Examined n demand register reading and profile reading, power quality monitoring and de-energization and reconfiguration of meter parameters

Survey

- Before and after the trail a survey was administered (with control groups) that looked at customers understanding and values around electricity.
- The pre-survey questioned often used 5 point scale from Strongly Agree to Strongly Disagree.
- Questions included things such as We know what we need to do to reduce electricity usage. What percentage savings on average did you achieve last year?
- The post pilot survey examined attitudes and behavior of customers regarding energy use after the trail and weather they believe the trail changed their behavior.

Implementation Issues and Analysis Challenges

- Integration of the comms module into the meter (required to obtain as much as possible within the timeframe)
- The state of customers' electrical installations
- A number of hypotheses need to be tested by statistical techniques

Relevant Literature

- Energy Policy Journal – Unlocking the €53billion savings from smart meters in the EU: How increasing the adoption of dynamic tariffs could make or break the EU's smart grid investment

- Cambridge University working paper – Smart Metering and Electricity Demand: Technology, Economics and International Experience

- European Commission Report – Smart Grid projects in Europe: Lessons learned and current developments