We understand utilities because we've made them our business for more than 35 years.

Research and Advisory

Using market research data, expert analysis, and industry experience, we help utilities put their customers first and meet their business objectives

Data Science

Applying predictive data science to help electric and gas utilities make data-driven decisions that improve their bottom line and increase customer satisfaction

Solution Services

Advancing business and technology solutions that strategically enhance operations for utilities

Setting the stage

37.2 million low- and moderate-income (LMI) households in the US

Programs are not optimized for LMI customers

Inflation is taking away small gains in income

E Source

Using data science and ethnography to better serve LMI customers

4

Case study overview: Project objectives

Improve or create programs that help LMI customers manage and pay their bills

Help LMI customers reduce their energy burden

Develop programs that meet both known and unknown needs

Project approach

Target customers were initially defined using 300% of the federal poverty level

LMI customer cohort creation	Ethnographic market research with LMI cohorts	Collaborative design-thinking workshop
Apply the E Source Audience of One approach to utility customer data to develop "like" groups of LMI customers	Bring LMI cohorts to life through ethnographic market research	Generate customer-centric solution concepts based on customer wants, needs, and challenges

Creating LMI customer cohorts

Goal: Differentiate customers based on behaviors and key interactions with their utilities

Arrears

Arrears cycles

Monthly arrears amount

Time spent in arrears

Time spent with increasing arrears

Disconnects

Number of disconnects

Number of 2nd order disconnects

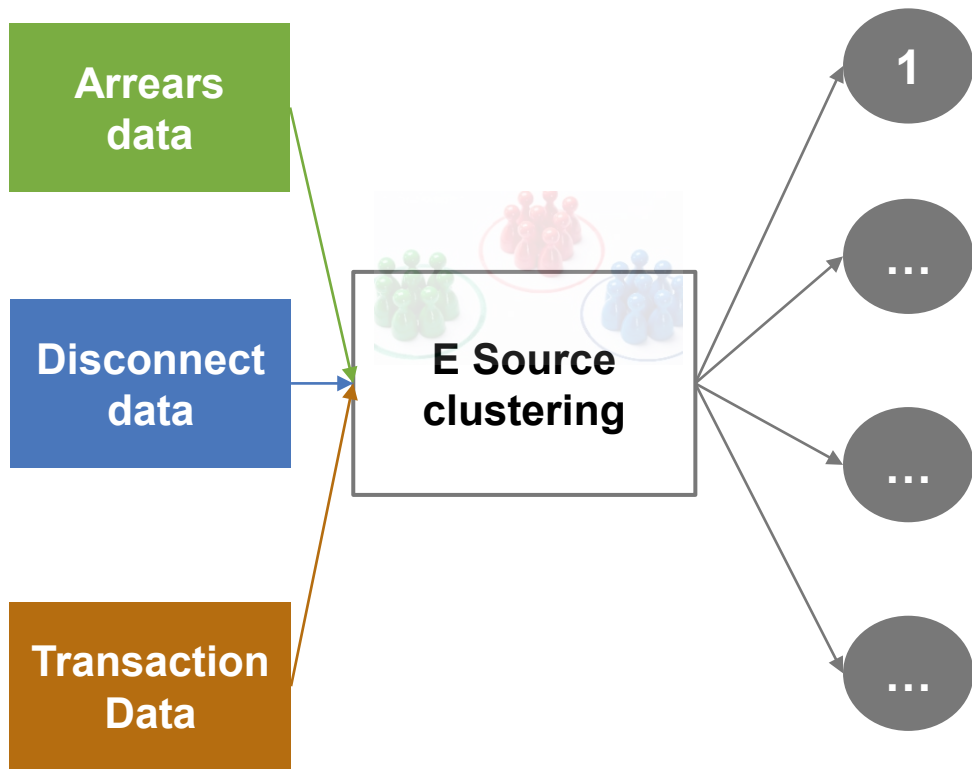Percentage of 1st orders leading to 2nd orders

Transactions

Number of calls

Payments

Payment assistance

E Source

Creating LMI customer cohorts: Part 1

Creating LMI customer cohorts: Part 2

Arrears data
Disconnect data
Transaction Data

E Source clustering

1
...
...
...

Cohort personas from AI models

Energy efficiency participation data
Billing and AMI data
E Source demographic data
Payment preferences and assistance data

E Source
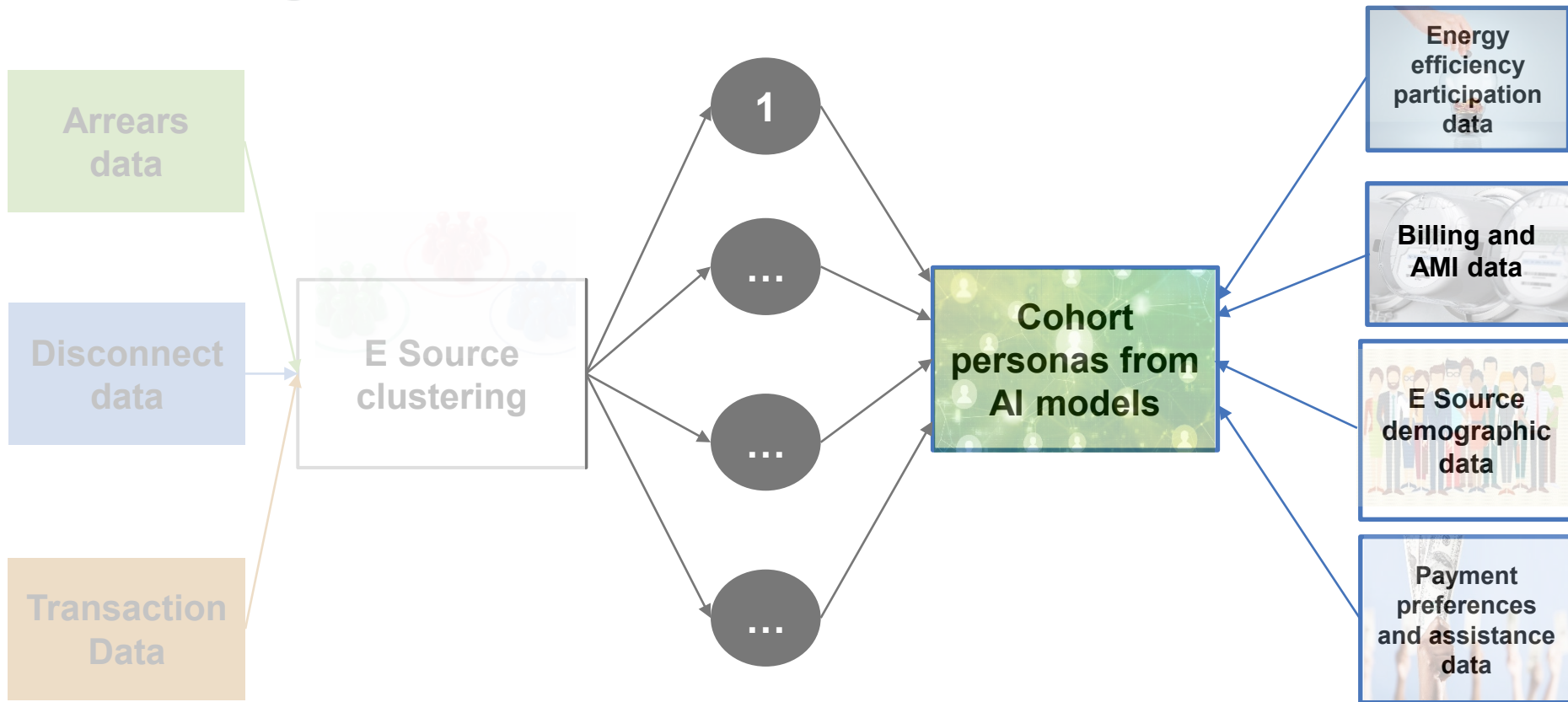
LMI cohort distribution

LMI cohort	Utility 1	Utility 2	Utility 3
1	17% 126,801	61% 644,671	80% 101,314
2	40% 288,001	16% 167,704	13% 16,654
3	15% 105,648	11% 112,254	7% 9,296
4	15% 107,946	12% 128,325	
5	13% 97,241		

Legend:
- Keeps up with utility bill (green)
- Struggles occasionally or often (gray)
- Struggles consistently (orange)

E Source

Key takeaways

- Data confirmed that LMI customers do not struggle the same

- Each utility parsed cohorts who *struggle the most* to pay their bill

- Compared to those who keep up with their bills, those who struggle the most, generally:

  - Contact their utility more often
  - Participate in energy efficiency programs at lower rates
  - Are more weather sensitive (particularly higher energy use for electric heating)
  - Live in older homes with lower market value
  - Have younger heads of household

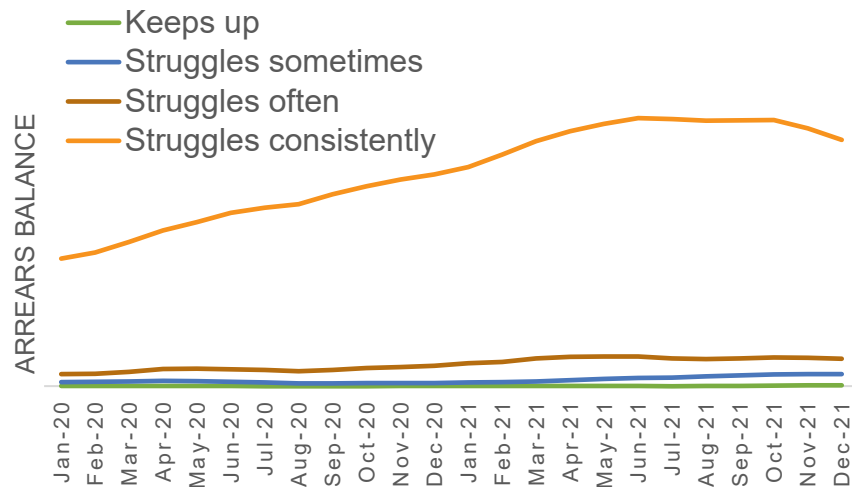# Example insight: LMI cohorts who struggle more, call more

Cohort	Calls per customer (2020–2021)
Keeps up	1.2
Struggles occasionally	3.5
Struggles consistently	9.4

Number of calls ▬ Percentage that called

48% · 62% · 78%

E Source
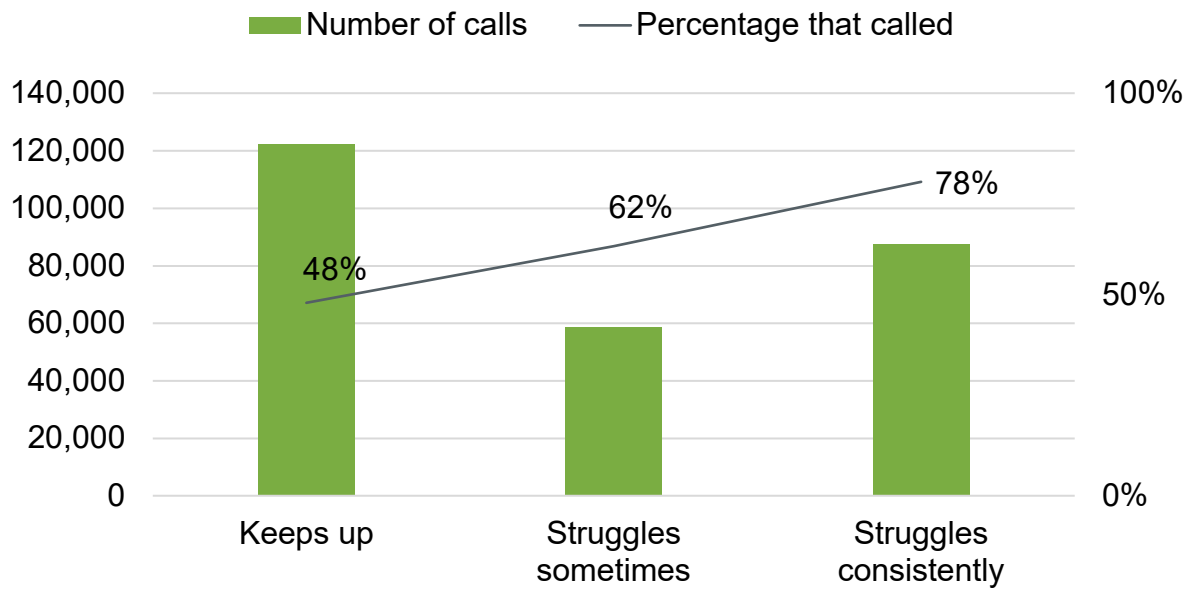
Example insight: Moratoriums' notable impact on those who struggle most

Utility A

Keeps up
Struggles sometimes
Struggles often
Struggles consistently

ARREARS BALANCE

Jan-20, Feb-20, Mar-20, Apr-20, May-20, Jun-20, Jul-20, Aug-20, Sep-20, Oct-20, Nov-20, Dec-20, Jan-21, Feb-21, Mar-21, Apr-21, May-21, Jun-21, Jul-21, Aug-21, Sep-21, Oct-21, Nov-21, Dec-21

Utility B

Keeps up
Struggles sometimes
Struggles consistently

ARREARS BALANCE

JAN-20, FEB-20, MAR-20, APR-20, MAY-20, JUN-20, JUL-20, AUG-20, SEP-20, OCT-20, NOV-20, DEC-20, JAN-21, FEB-21, MAR-21, APR-21, MAY-21, JUN-21, JUL-21, AUG-21, SEP-21, OCT-21, NOV-21, DEC-21

E Source

Example demographics

		Keeps up 1	Keeps up 2	Struggles occasionally	Struggles often	Struggles consistently
Demographics	Mean age (head of household [HOH])	52		47	49	47
	Mean income	$59,600	$55,000	$50,800	$52,200	$49,700
	Median percentage of federal poverty level	233%	233%	196%	201%	194%
	Education (percentage postsecondary)	20%	15%	9%	11%	7%
	Energy burden (utility bill / monthly income)	Lowest		Second highest	Third highest	Bills likely too high for income
Financials and lifestyle		More likely to be a community bank customer		Unlikely to be in the market for a home loan		Most likely to be qualified for Medicaid
		Likely to work after retirement		Likely to switch jobs and continue working after retirement age		
		Equally likely to be bargain or what's-on-sale shopper as others		Frequent ATM user and more likely a rewards-cash-back user		

Why ethnographic research?

- Allows you to understand people's beliefs, experiences, attitudes, behaviors, and interactions

- Allows contextualization of data insights

- Helps instill empathy for customers

- Helps mitigate assumptions or minimize one-size-fits-all approaches to customer challenges

Our guest speakers

Rasheeda Davis
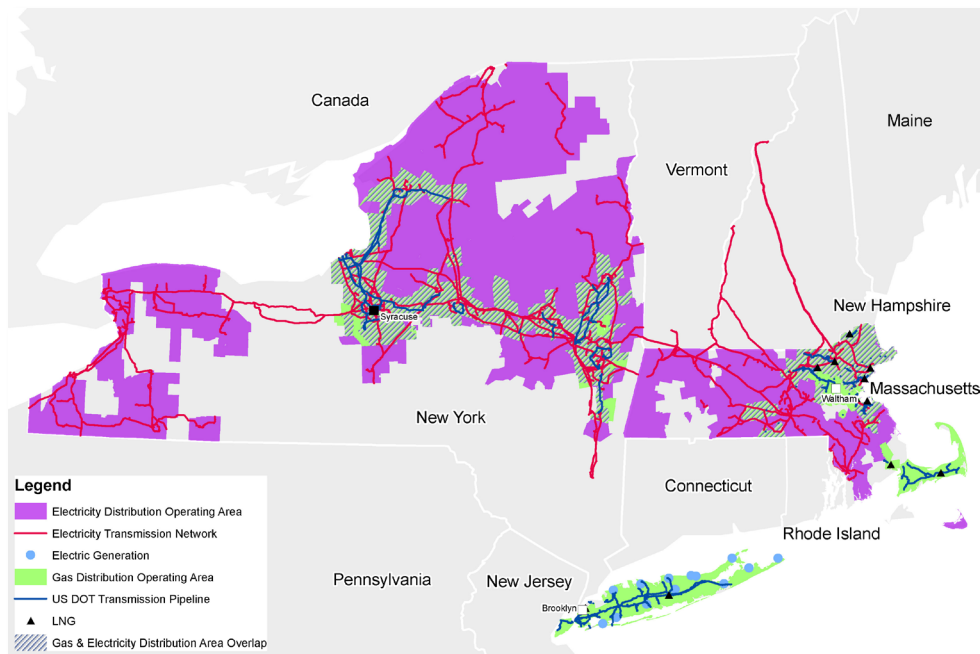Director, Market Segmentation
& Growth, National Grid

Sandra Alvarado
LMI Strategist, Market
Segmentation & Growth,
National Grid

E Source

About National Grid

We are one of the largest investor-owned energy companies in the US, serving more than 20 million people throughout New York and Massachusetts.

Legend
- ▨ Electricity Distribution Operating Area
- — Electricity Transmission Network
- ● Electric Generation
- ▨ Gas Distribution Operating Area
- — US DOT Transmission Pipeline
- ▲ LNG
- ▨ Gas & Electricity Distribution Area Overlap

Serving 20 million people

5.3M Residential + 600k Commercial = 5.9 million customer accounts

Residential & Commercial customers by region:

MA

NY

2.3 million

3.6 million

UNY 1.7 million
LI   0.6 million
NYC 1.3 million

What our project participants are doing next

- Taking solution concepts forward through tests and pilots

- Leveraging data and insights to advocate for improved LMI policies and solutions

- Going deeper on LMI customer analysis to create subcohorts for those who struggle the most

What *you* should do next

- Segment your LMI customer group

- Understand their needs and wants as individuals

- Reexamine your utility's LMI offerings based on customer feedback

- Identify areas where you can improve outcomes for LMI populations

Where are you on your LMI journey?

| Equity and LMI strategy development and deployment | LMI stakeholder engagement and trust-building | Segmenting LMI population | LMI solution design |

Internal cultural transformation and change management

E Source can meet you where you are on this important journey!
Schedule a discovery call with us to find out how E Source can help you.

E Source

Contact us

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