Abstract #: 189
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Abstract Title: Accelerating the Discovery and Application of Behavioral Insights through Adaptive Evaluation of Smart Grid Programs

Abstract Text:

Residential smart grid enabled programs like peak-time rebates, real-time pricing, and meter-connected third-party devices, face many challenges in adoption. Little is understood about what induces enrollment in these programs, what effects attrition, how much residential customers benefit from participation, and what consumption behaviors these programs can successfully change for different populations. The Center for Data Science and Public Policy at the University of Chicago has worked with the Illinois Science and Energy Innovation Foundation to develop a data and analytics system for targeted outreach, real-time monitoring, and dynamic evaluation for five simultaneous smart grid education and engagement pilot programs. These programs range in scope from faith-based community outreach, to state-wide email campaigns, to smart in-home meter-connected devices for elderly populations. Through novel applications of high-frequency usage data, multiple channels for customer-facing informational interventions, and adaptive machine learning techniques for targeting and iterative experimentation, we have begun to demonstrate the power of an integrated behavioral learning platform for faster, more scalable discovery of behavioral insights across programs. These insights allow for faster cross-program improvement in enrolling people in peak-time rebate, real-time pricing, and energy efficiency programs, and lead to lower attrition and higher realized savings. Initial findings include results showing the ordering of program descriptions can have substantial effects on enrollment by reducing the cognitive load of retaining information about complex pricing schemes.