

Motivating Sustainable Energy Consumption Within Organizations: The Role of Artificial Intelligence and Behavioural Nudging

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Abstract

Organizations, as large energy consumers, are an important target for critical peak pricing programs. These aim to promote sustainability by reducing energy consumption during peak demand by charging high energy prices for energy consumed during critical hours. While research has shown such programs can effectively reduce individuals' energy consumption, less is known about their effectiveness on organizations. In this research, we explore the effectiveness of critical peak pricing on organizations' electricity consumption. We develop a two-stage marketing system utilizing both artificial intelligence and behavioural science to increase the effectiveness of these programs by improving the accuracy of energy demand forecasts and enhancing communication with behavioural nudges. Through this marketing system, we demonstrate and improve the effectiveness of critical peak pricing in decreasing organizations' energy consumption and quantify the impact on organizations' electricity bills.

Subject Areas: *Organization Behavior, Pricing, Public Policy*

Track: Social Responsibility & Ethics