



The Matchmaker

Methods for Encouraging Participation and Finding the Best Demand Response Programs for Customers

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Many voluntary demand response programs face a challenge with low participation in events

- **Mismatch:** Initial enrollment processes did not give enough consideration to which customers were the best fit for their program
- **Evaluation:** Typically only looks at event performance in the aggregate, without further examining the characteristics of customers that do/do not participate to maximize event participation

Result: program administrators may be missing out on additional, cost-effective participation and impacts

Our Mission:

- QUANTITY of participation
- QUALITY of participation
- Improved future enrollment in the program



Two methods to encourage event participation and achieve greater impacts in demand response events

- Approach 1: Determine what types of customers are likely to participate and which are not
 - **Data Source:** Existing program data on participation and survey data on participation experiences
- Approach 2: Identify and prioritize reduction of participation barriers
 - **Data Source:** Survey questions on barriers to participation and likelihood to participate in the future

We developed these methods evaluating a 2012-13 statewide demand response program

■ Program Description

- Implemented by two utilities in California
- Voluntary program for commercial, industrial and institutional customers
- Participants submit bids prior to events and receive per kW incentives for demand reduction

■ Key Data Sources

- Reviews of program tracking databases
- Depth interviews with program managers and customer relationship managers
- Survey of participants across the two utilities

Approach 1

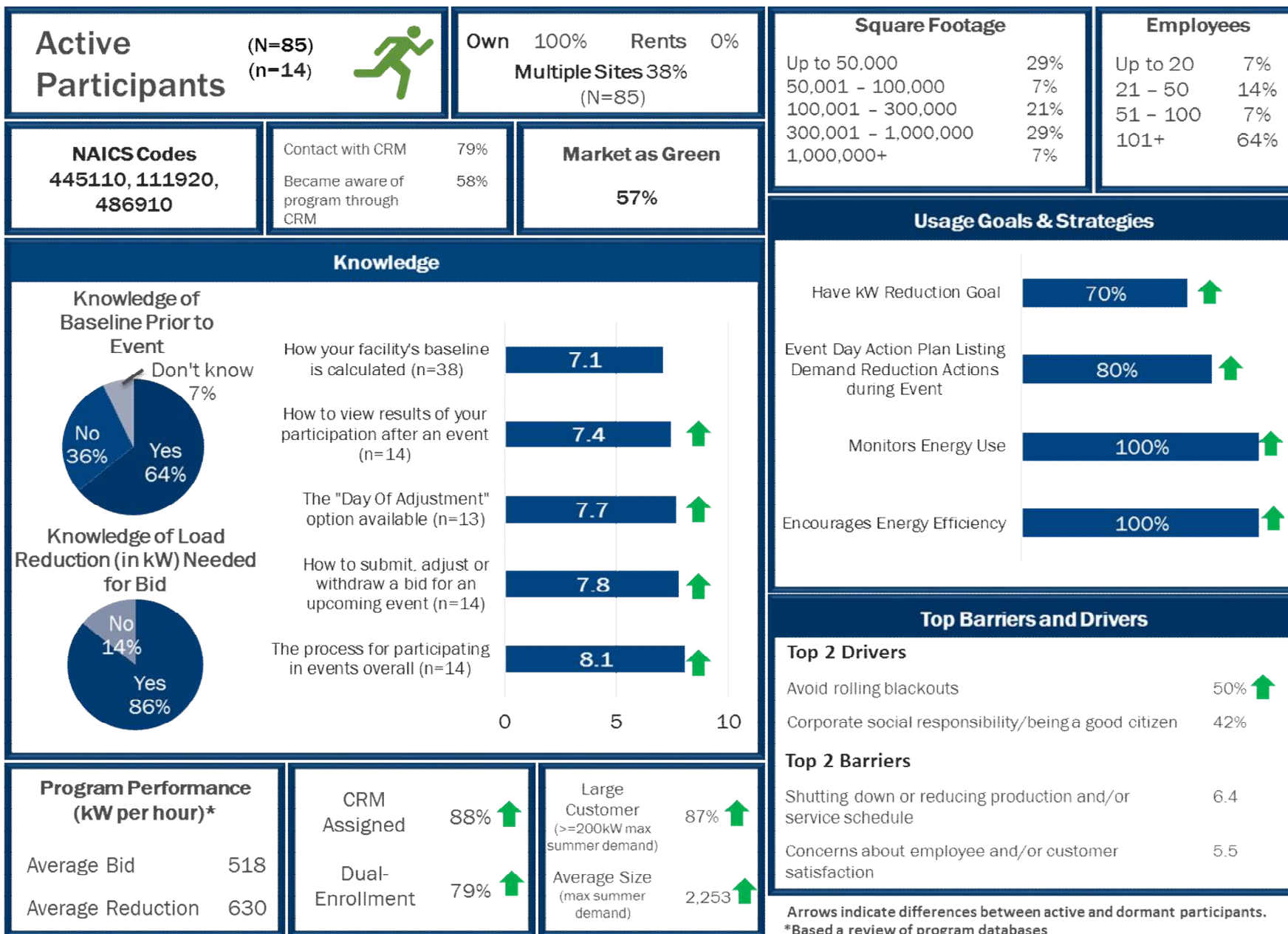
***Low Hanging
Fruit***







What types of customers are more likely to participate in events?

We used program tracking and survey data to characterize the participant population

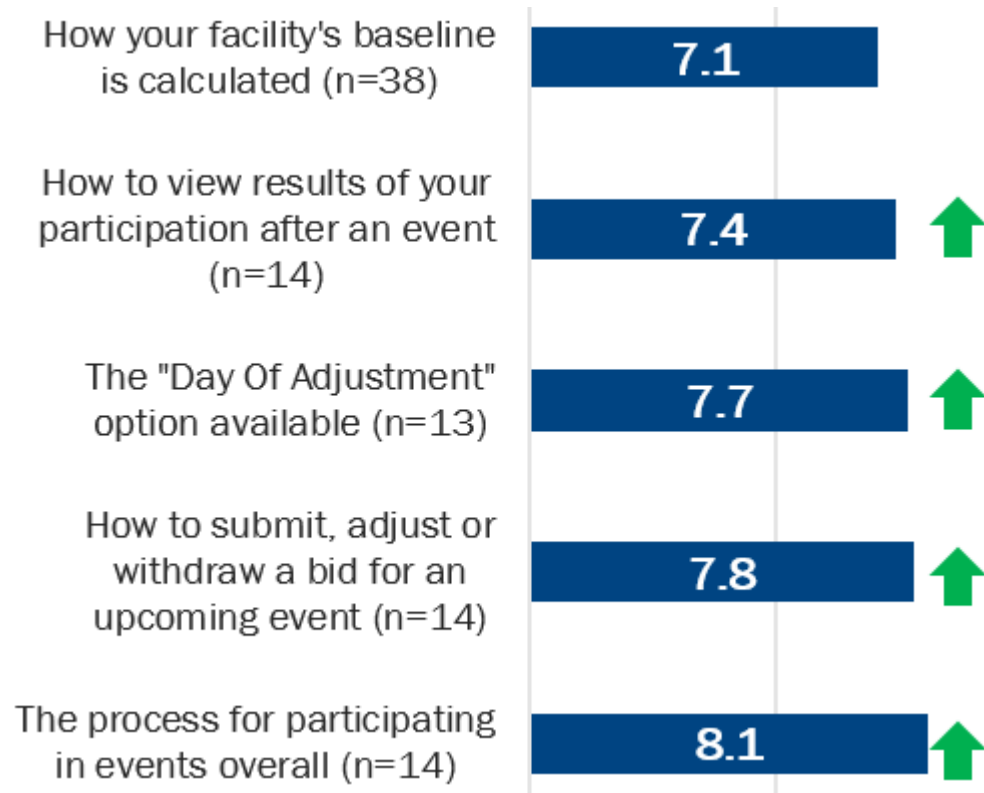
- Reviewed participation databases to flag customers as “active” or “dormant” in terms of their event participation
 - **Active:** Submitted bids prior to events or attempted to reduce load during events
 - **Dormant:** Enrolled in the program but did not submit bids or attempt to reduce load during events
- Used tracking and survey data to developed profiles of active and dormant customers
 - Examples: Firmographics, load reduction performance, knowledge of participation processes, engagement with IOU customer relationship managers



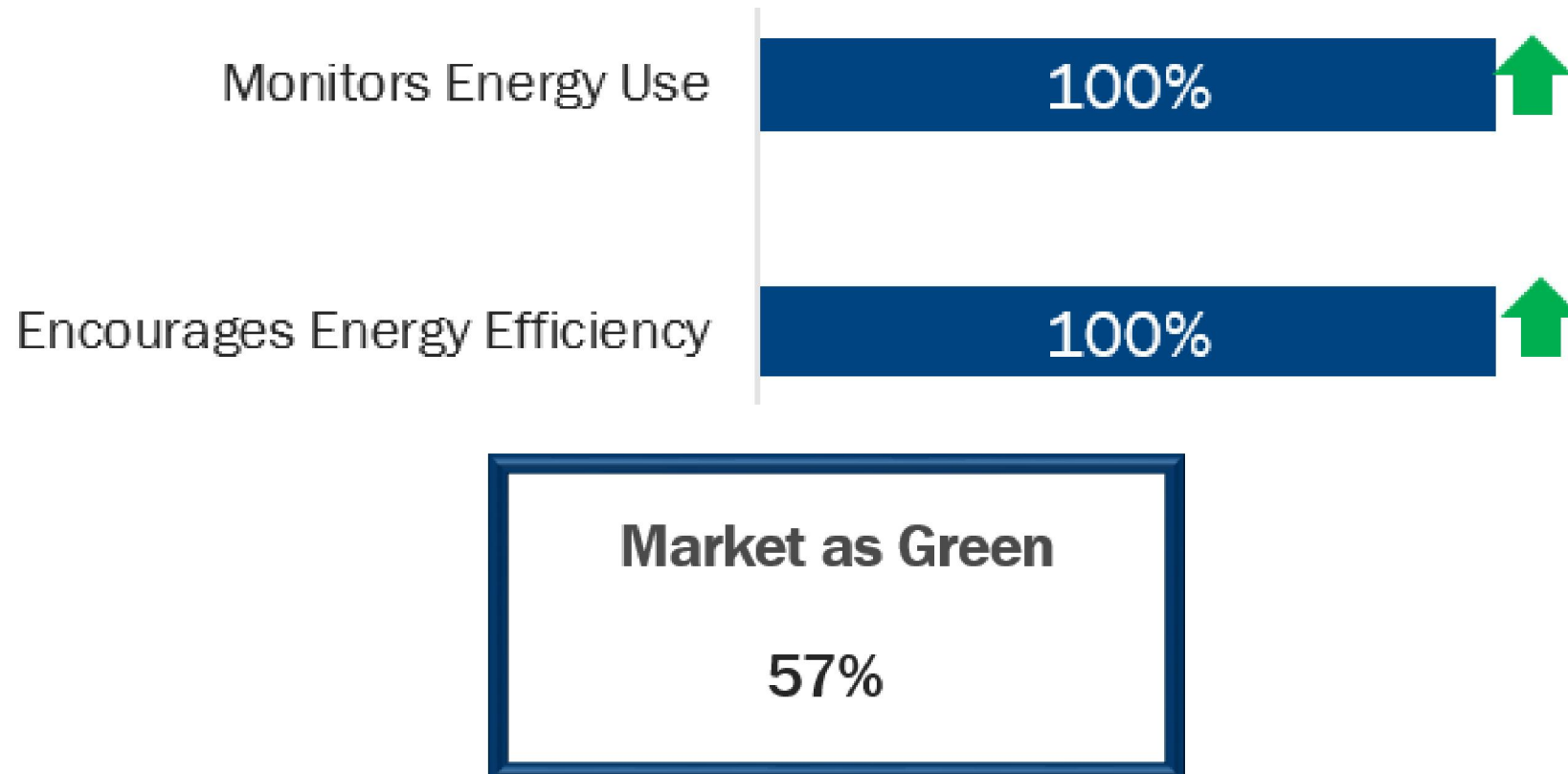
Example: Firmographics and Event Performance

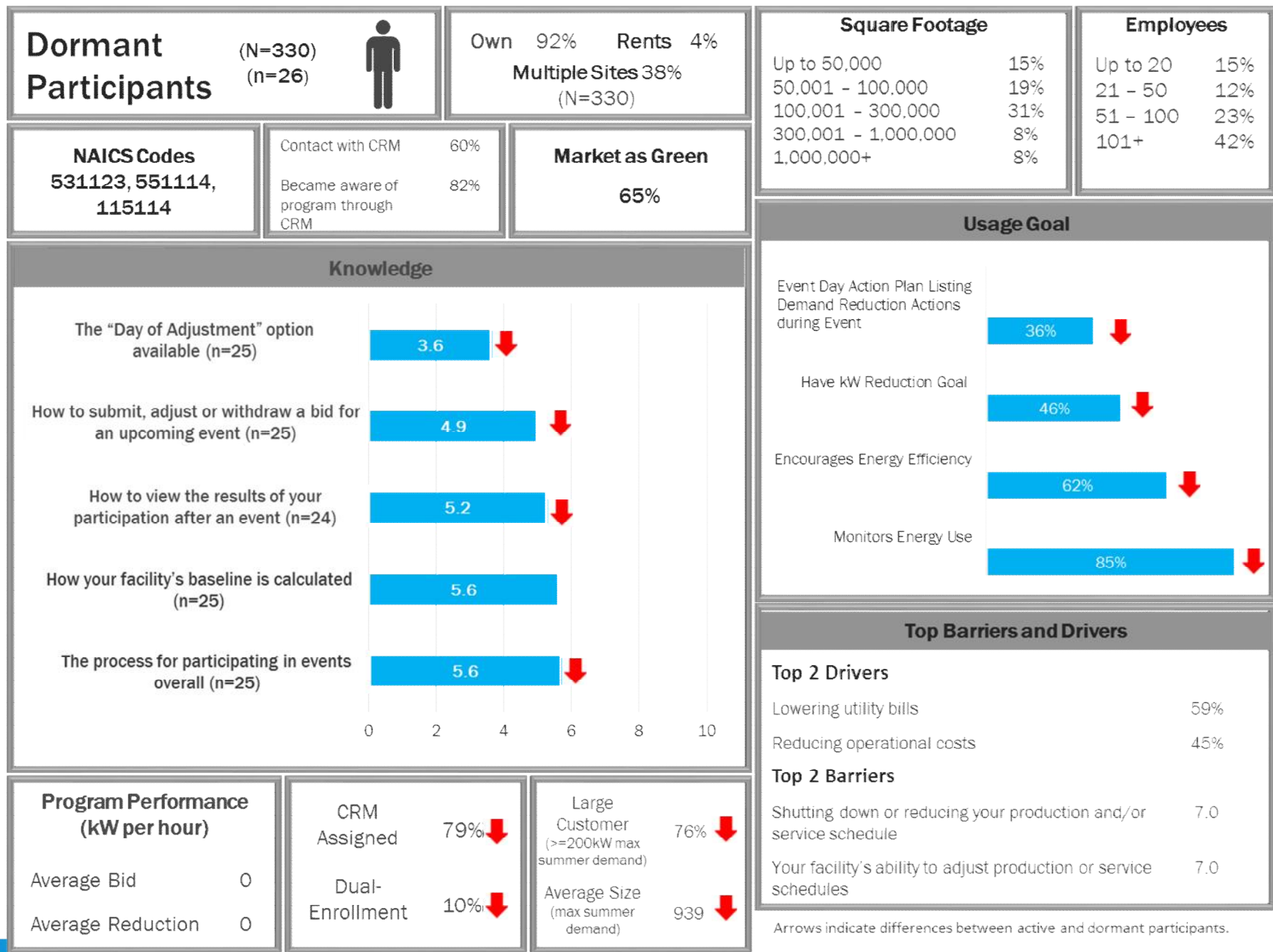
Program Performance (kW per hour)*		CRM Assigned 88% 		Large Customer (>=200kW max summer demand) 87% 	
Average Bid	518	Dual-Enrollment	79% 	Average Size (max summer demand)	2,253 
Average Reduction	630				

Example: Knowledge of Program Processes



Example: Company Culture and Practices





Program Performance (kW per hour)

Average Bid	0
Average Reduction	0

CRM Assigned 79% ↓

Dual-Enrollment 10% ↓

Large Customer (>=200kW max summer demand) 76% ↓

Average Size (max summer demand) 939 ↓

Who should the utility target for program enrollment?

■ Not surprisingly...

- Active customers are more knowledgeable about program processes and tend to be more prepared for events (i.e. action plans, goals)

■ Who are “active” customers?

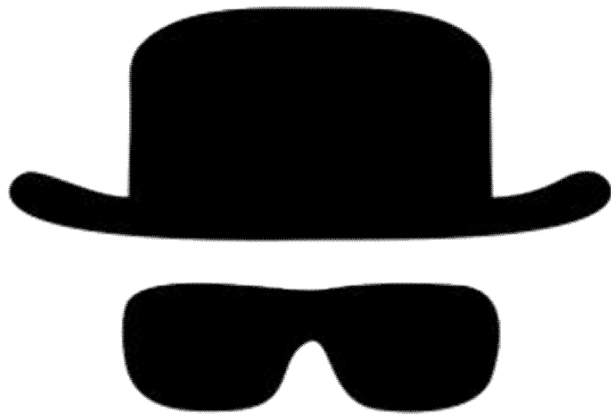
- Larger in terms of energy usage
- Have an assigned customer relationship manager
- Monitor their energy use
- Have a company culture that encourages energy efficiency

Conclusions:

1. Ensure existing customers are knowledgeable about program processes
2. The utility should screen for these types of customers for new enrollment in the program



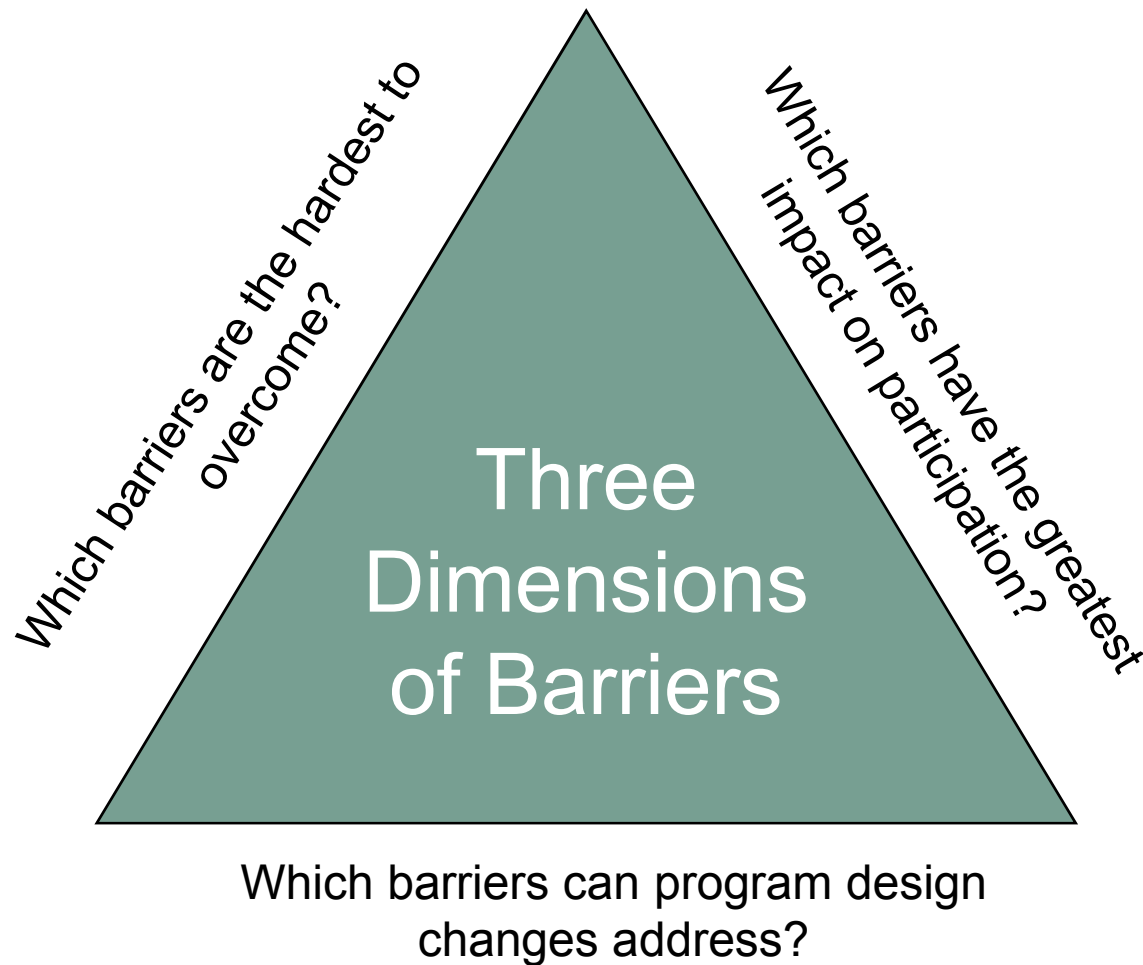
Approach 2



³⁵Br^{eaking} ⁵⁶Ba^{rriers}
⁵⁶Ba^d

How can the utility encourage customers to participate in events?

By combining three concepts, we can identify cost-effective barriers to eliminate



Addressable Barriers: Barriers program design changes can address

Convenience of participating

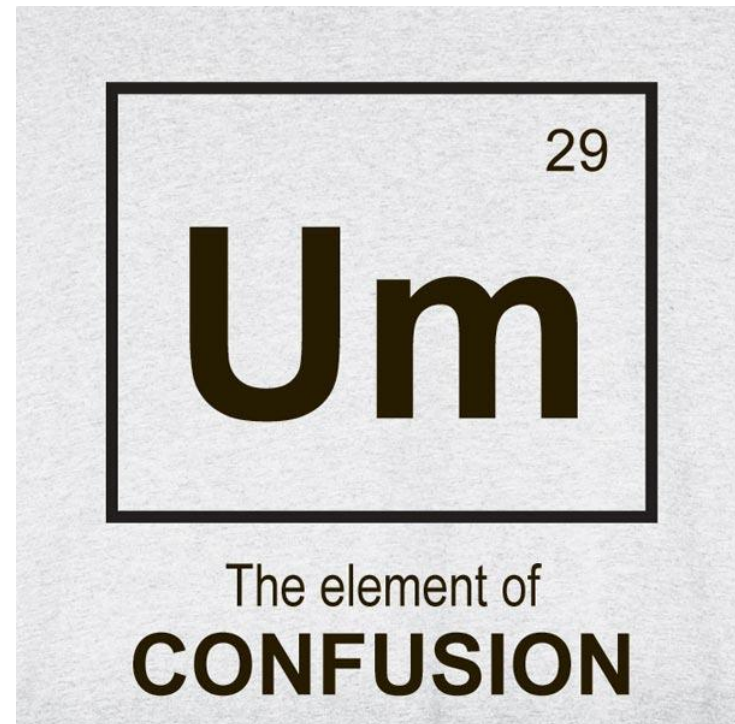
- No action plan for events
- Time required for events
- Manual effort for events
- Finding staff for events



Addressable Barriers: Barriers program design changes can address

Program Understanding/Support

- Understand event participation process
- Understand load reduction needed to meet bid
- Lack of support from utility staff
- Unaware of events
- Don't receive notification of events



Structural Barriers: Barriers related to the nature of a company's business

Loss/Risk to Revenue Stream

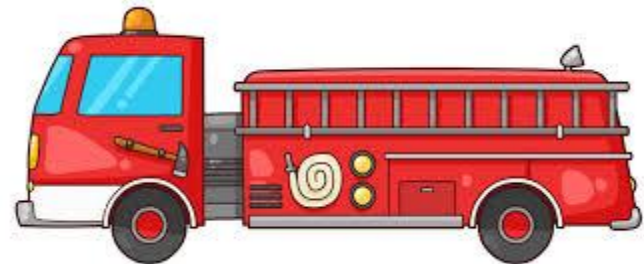
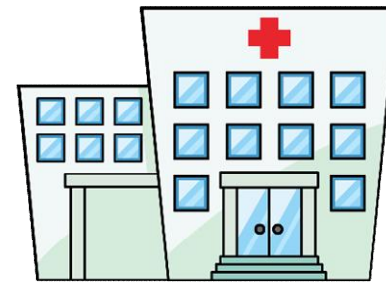
- Shutting down / reducing production or service schedule
- Employee / customer satisfaction
- Loss of revenue



Structural Barriers: Barriers related to the nature of a company's business

Nature of Business Operations

- Facility operating hours
- Ability to adjust production or service schedules
- Product or service
- Health and safety regulations



We identified priority barriers through a survey of program participants

- Asked questions on the size of potential barriers to event participation
 - 0-10 scale, with 10 being a “big obstacle”
 - We developed these barriers after completing depth interviews with program managers and customer relationship managers

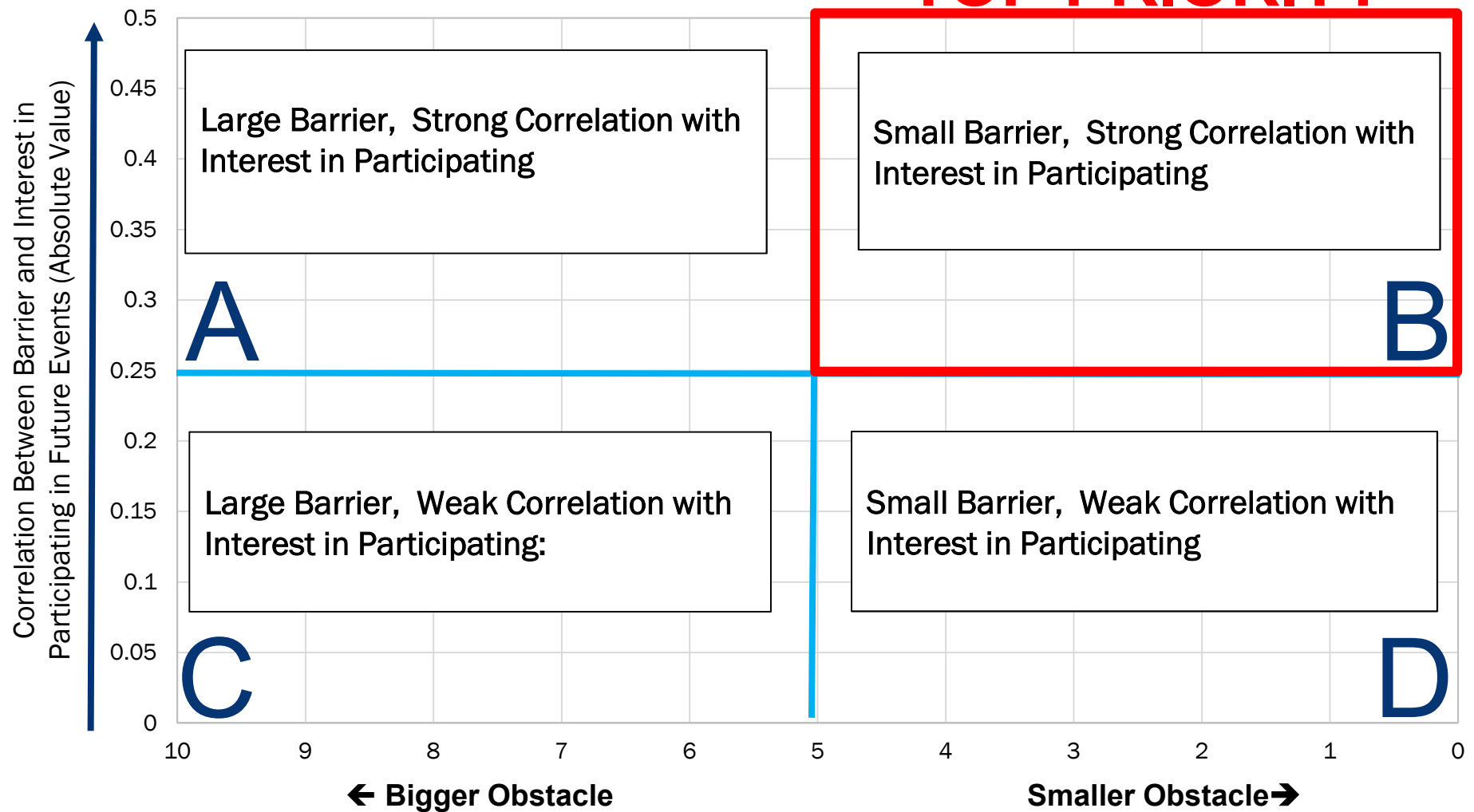


We identified priority barriers through a survey of program participants

- Asked questions on the likelihood customers would participate in future events
 - 0-10 scale, with 10 being a “very likely”
- We then correlated the size of barriers with likelihood to participate in future events

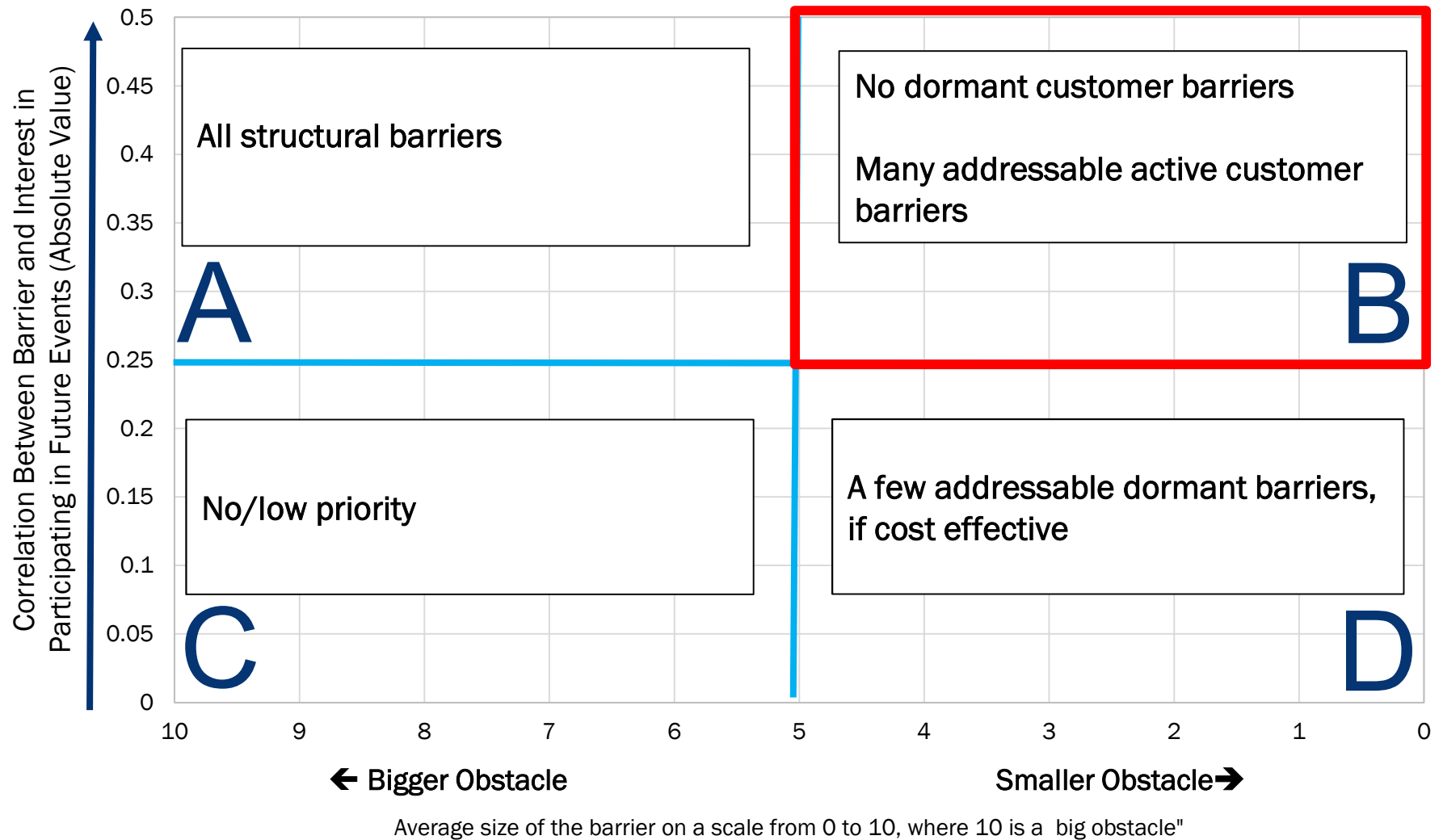


TOP PRIORITY



Average size of the barrier on a scale from 0 to 10, where 10 is a "big obstacle"

TOP PRIORITY



How can active customer participation be enhanced?

- Address barriers in “top priority” quadrant
- Most can be addressed through program design changes:
 - Unaware of events/not receiving event notifications
 - Too much effort/time required to participate in events (i.e., address through automation)

Conclusion: Overcoming these barriers may potentially lead active customers to participate more frequently or increase load reduction during events.

How can dormant customers be encouraged to participate?

- No dormant customer barriers are “top priority”
- A few barriers can be addressed, if cost-effective:
 - Improve utility staff support
 - Improve understanding of program requirements
- Ultimately, these changes have only marginal potential for encouraging participation

Conclusion: Do what can be done cost-effectively, but dormant customers may just not be the right fit for this program.

Conclusions on How to Increase Event Participation

■ Existing participants:

- Address the “top priority” active customer barriers for potential increases in event performance or frequency of event participation
- Address non-structural dormant customer barriers, if cost effective
- Consider whether other programs are a better fit for dormant customers

■ New participants:

- Use the active customer profile (Approach 1) as a guide for future enrollment



Thank you!

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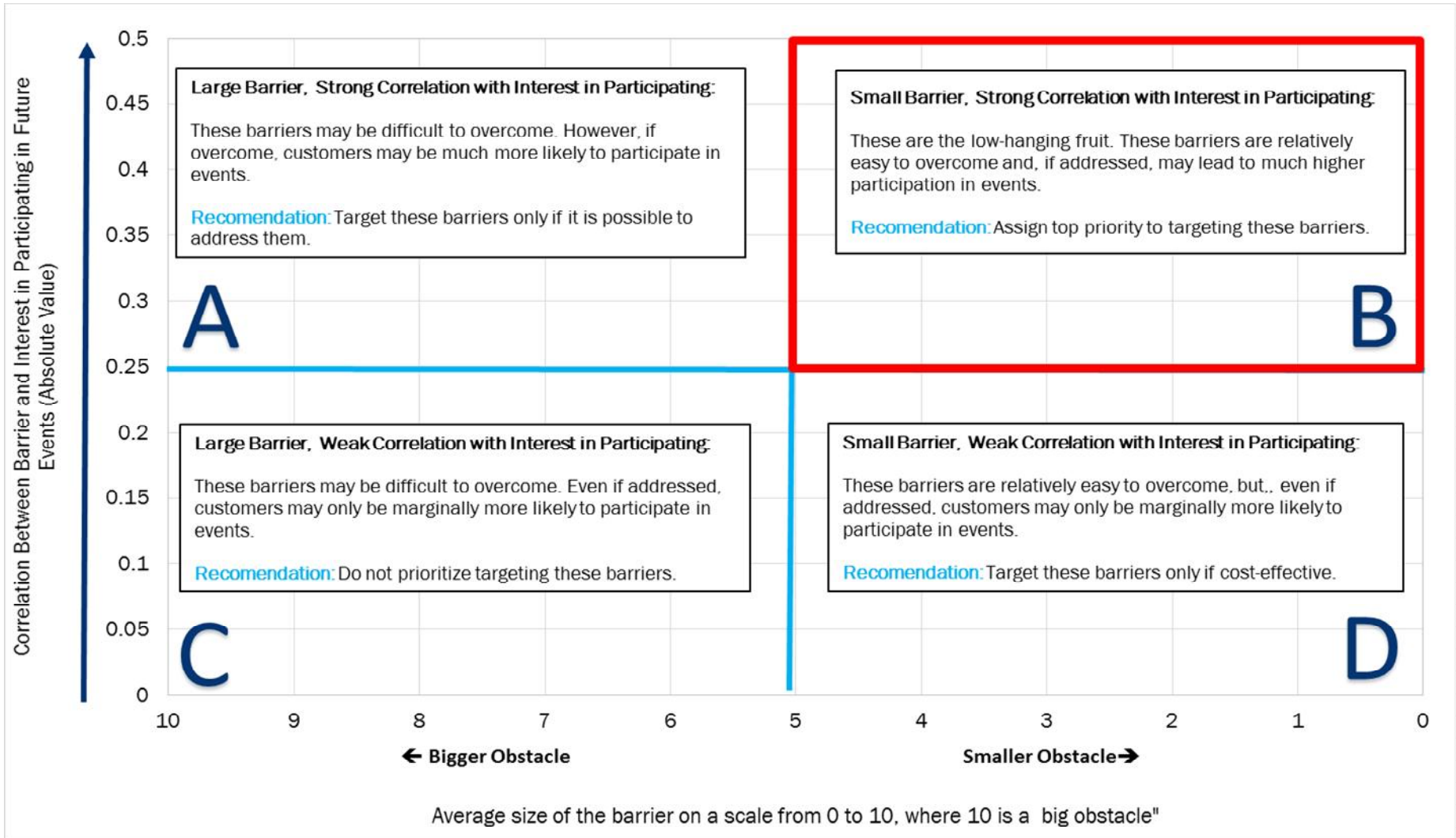
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Additional Data Slides

TOP PRIORITY



Key Barriers to Event Participation Faced by Utility's Customers (Active vs. Dormant Customers; n=40)

