

## Farmers listen to more advice when asked for call preference: Call frequency and listening rates among farmers in India

### Overview

Since 2015, PAD has been providing mobile phone-based agricultural advice in Gujarat, India. Monitoring user engagement over time, the team noticed that the listening rate seemed to drop for longer calls. To assess the effectiveness of the ongoing service, the team tested how farmers respond to different call frequencies and call lengths. Farmers may be unable to listen to longer calls made less frequently; however, they may also grow tired of more frequent attempts to contact them.



Figure 1. Framework for testing variations in PAD's traditional mobile-based outreach in Gujarat to better reach farmers.

The experiment revealed that simply **asking farmers about their preferences for call frequency** led to higher rates for farmers to both answer the phone call and listen to the agricultural advice provided. Farmers who were not asked about their preference, but automatically received two shorter calls per week, were no more likely to answer the call than those who received one longer call – but when they did answer, they listened to more of the agricultural content.

### Experimental Design

The experiment aimed to assess the impact of changes in PAD's push call service among nearly 4,000 farmers that are subscribed to PAD's mobile-based extension service in India. The PAD India team used a **10-week A/B test** to determine the impact of variations in the service on farmer *pick-up* and *listening rates*. The *pick-up rate* is the share of push calls answered, whereas the *listening rate* is the share of content heard by

#### PAD's Approach: A/B Testing

A/B testing is an experimental method used to compare two versions of a service to determine which one works best. In an A/B test, half of the sample randomly receives 'option A', the other half receives 'option B', and the outcomes of the two groups are compared. A/B tests are integrated into PAD's approach and operations to quickly and continuously identify how to best reach farmers with new information to increase yields and incomes.

#### 1. Control Group

- One third of farmers received one call per week of two minutes in length
- Agricultural content was provided in the single call

#### 2. Treatment Group

- One third of farmers received two calls per week of one minute in length
- Agricultural content was spread over the two calls

#### 3. Preference Group

One third of farmers were asked to indicate their preference to receive one longer call per week or two shorter calls per week

farmers – given that they can hang up prior to the end of the call. Farmers were assigned to one of three groups: control, treatment, and preference.

**Preliminary Results**

The results of the A/B test highlight the benefits of first asking farmers what their preferences are for receiving mobile-phone based agricultural advice.

- *The preference group had much higher pickup and listening rates when compared to the control group.* The preference group not only answered the calls at a higher rate than the control group (88 percent compared to 80 percent; Figure 2), but they also listened to a higher share of the agricultural content provided (39 percent compared to 30 percent; Figure 3). Both of these differences are statistically significant.
- *The treatment group – those who received two one-minute calls per week – had slightly higher listening rates when compared to the control group – those who received one two-minute call per week, but there was no significant difference in pickup rates.* The treatment group listened to nearly 33 percent of agricultural content as compared to the control group which had just under a 30 percent listening rate, a difference which is statistically significant.

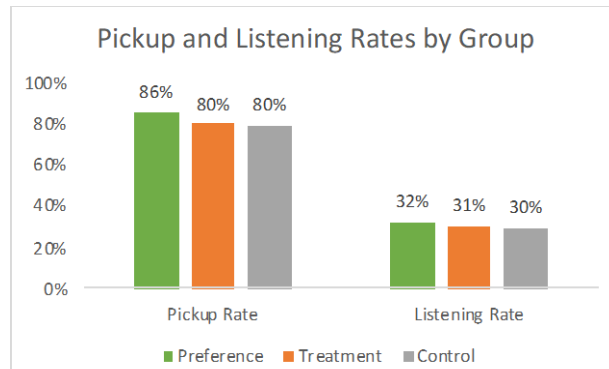


Figure 2. Share of push calls answered and share of content heard by farmers in each treatment group

**Observations and Key Takeaways**

The results show that making two shorter calls a week is a slight improvement over PAD’s standard single, longer call – with a statistically significant difference for listening rates but not pickup rates – but asking farmers for their preferences at the beginning of the season yields the highest pickup and listening rates.

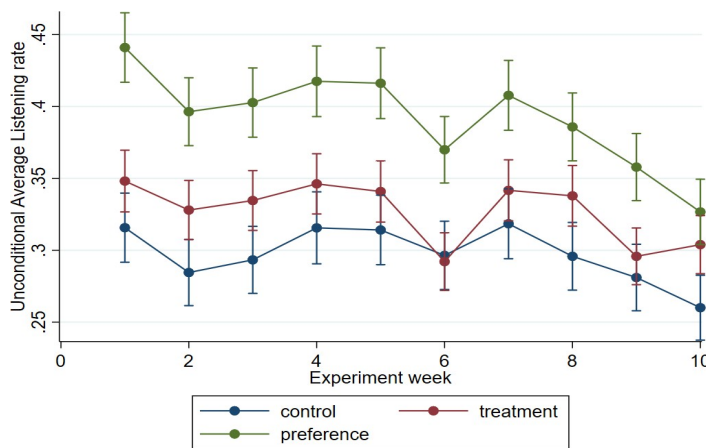


Figure 3. Listening rates by treatment group over the course of the 10-week experiment (with standard errors). The decline in content heard in week 6 was due to technical issues with the call service.

These findings can now be integrated into PAD’s operations in India to improve farmer outreach and program impact.

One potential factor that may influence the results is a “priming effect” felt by the preference group, who may be more attentive to the anticipated calls from the beginning of the season simply because they were contacted in advance about their preferred call frequency. If a priming effect is at play, it would be expected to subside over time as farmers become less attentive to the calls as the season progresses and the effect fades.

However, Figure 3 shows that the preference group consistently maintains a higher listening rate over the 10-week period of the experiment, suggesting that farmers are in fact responding positively to being asked their call frequency preferences at the beginning of the season. These findings also indicate that, perhaps more than the actual call format, allowing users to personalize their information delivery

has significant, positive impacts on their use. Moving forward, PAD will explore other ways to allow users to customize program services to them.