Background

Acme, a fictitious website, requests that users answer a few questions regarding their preferences prior to moving through the site. Answers are not required to move forward, but it is known that the user experience is better given that information.

Experiment

A new landing page was tested.

An A/B test was constructed so 50% of all users that reach the site are assigned to the old landing page. The old landing page is the control group. The remaining 50% are assigned to the new landing page. The new landing page is the treatment group.

The historic completion rate for the landing page is 10%. An improvement to only 10.1% would provide a lift of 1%. If statistically significant, this would be considered a success.

Acme uses a third-party, automated system to determine when to stop the experiment. It is supposed to stop the experiment when a significant difference between control and treatment has been reached.

Problem

The project manager pushed for the new redesign and is very excited about it. She's concerned that the experiment stopped, but the results don't appear to be significant yet.

She's asked you to check the results with Acme's own logs (since you don't have access to the third-party system's data).

Questions

With the available data, what do you believe the results suggest? Do you have more confidence in Acme's data or the third party data? Why?

Knowing that the project manager is very smart, but that she is not a statistician, how would you explain it to her? What suggestions would you make for a future test?

Additionally, a separate table lists user_id's and, if known, their country. Does the country data offer any additional insight?

About the Data

experiment.csv
The data for the experiment is attached.
There are five columns: user_id, ts, landing_page, ab, conversion

user_id: A unique identifier for each user.
ts: Time Stamp
        The epoch time that the user hit the landing_page.
landing_page: The first page a user reaches on the site.
        If a user hits the old landing page -> old_page
        If a user hits the new landing page -> new_page
ab: This denotes if the experiment is assigned to the control or to the treatment.
        If the user is assigned to control -> control
        If the user is assigned to treatment -> treatment
converted: This denotes if a user answered the preference questions.
        If a user does answer the questions -> converted = 1
        If a user does not answer the questions -> converted = 0

country.csv
user_id: A unique identifier for each user.
country: Country of user.