

# E-news Express AB Testing

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# Table of Contents

1. Business Problem Overview and Solution approach
2. Data Overview
3. Exploratory Data Analysis
4. Statistical and Business Insights
5. Recommendations

# Business Problem Overview and Solution Approach

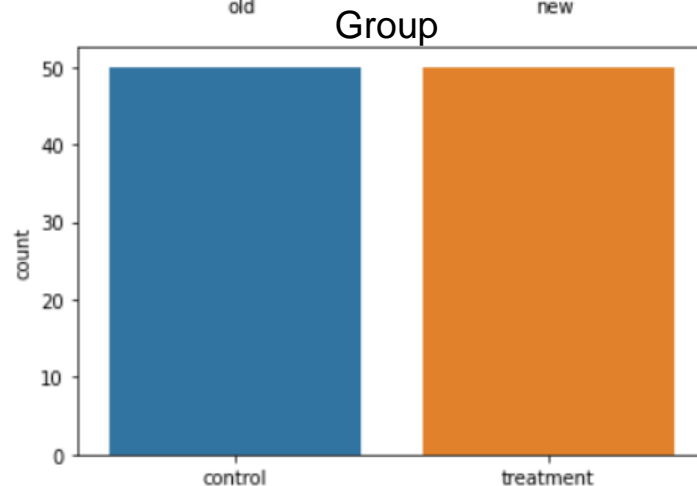
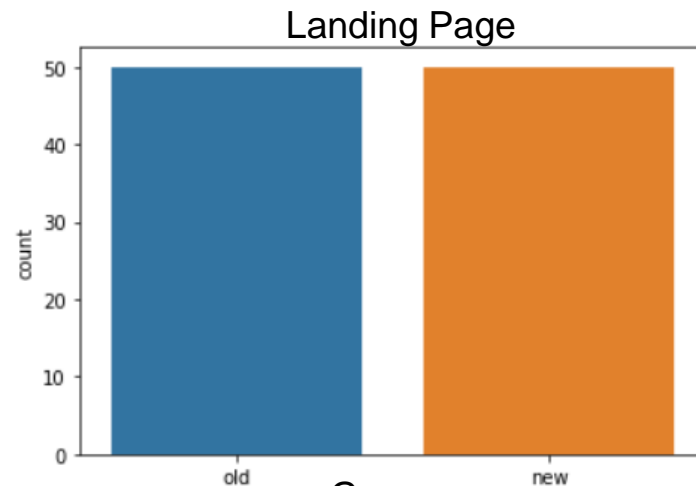
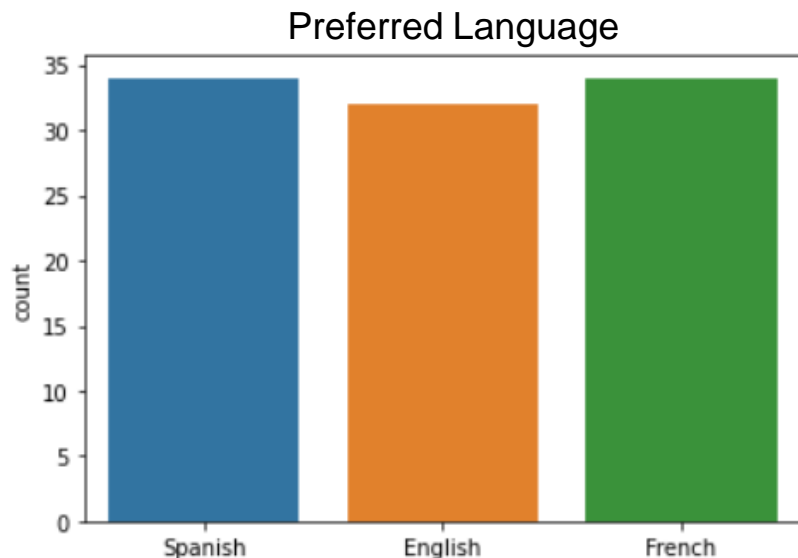
- E-news Express is attempting to increase its subscriber growth.
- The online news portal believes enhancing its landing page may encourage visitors to convert to subscribers.
- A current vs potential landing page experiment will be conducted to determine if new features will encourage subscriber growth.
- A deep dive into the preferred language of portal visitors could unlock insights to drive subscriber growth.
- Is an existing variable being overlooked that could increase subscriber growth.

# Data Overview

Data Records	Data Characteristics
User ID	Represents identification of a person visiting the landing pages. 100 total IDs.
Group	Represents whether the visitor belongs to the control group or the treatment group. Control is synonymous with the old landing page and treatment is the same as the new landing page. Two values: Treatment (50 visitors) and Control (50 visitors)
Landing Page	Represents whether the visitor viewed the old or new landing pages. Two values: New (50 visitors) and Old (50 visitors)
Time spent on Page	The time a visitor spent on a landing page. 94 distinct values. Mean=5.37 minutes   Median=5.41 minutes Minimum=.19 minutes   Maximum 10.72 minutes
Converted	Represents whether a visitor converted into a subscriber Two values: Yes (54 visitors) and No (46 visitors)
Language Preferred	Represents the language chosen by a visitor Three values: Spanish (34 visitors), French (34 visitors), and English (32 visitors)

# Exploratory Data Analysis

- The two landing page variables were tested an equal amount amongst visitors preferring three languages.

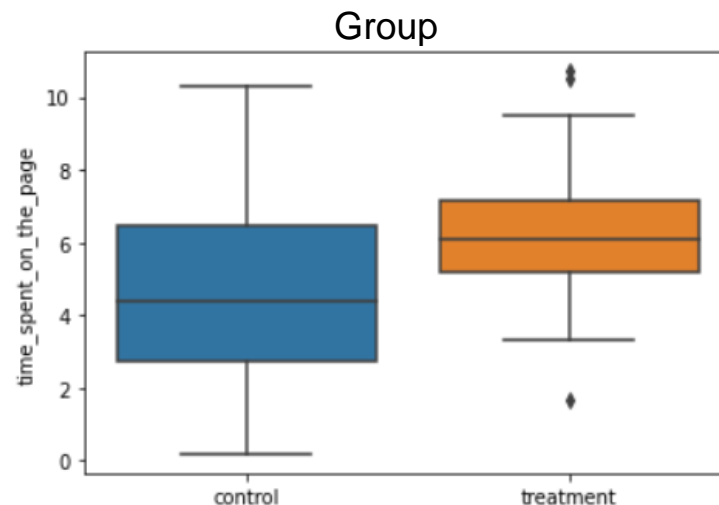
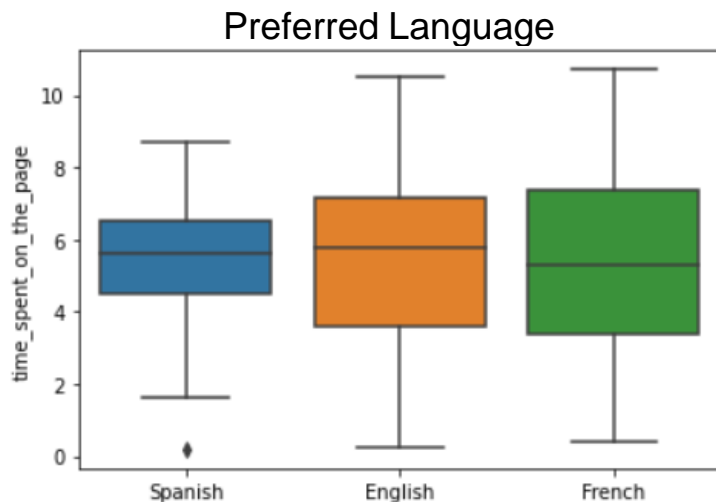


# Exploratory Data Analysis

- The time spent on each landing page can provide insights into other factors.
- The preferred language and landing page groups all have individuals visiting both landing pages for relatively similar intervals.

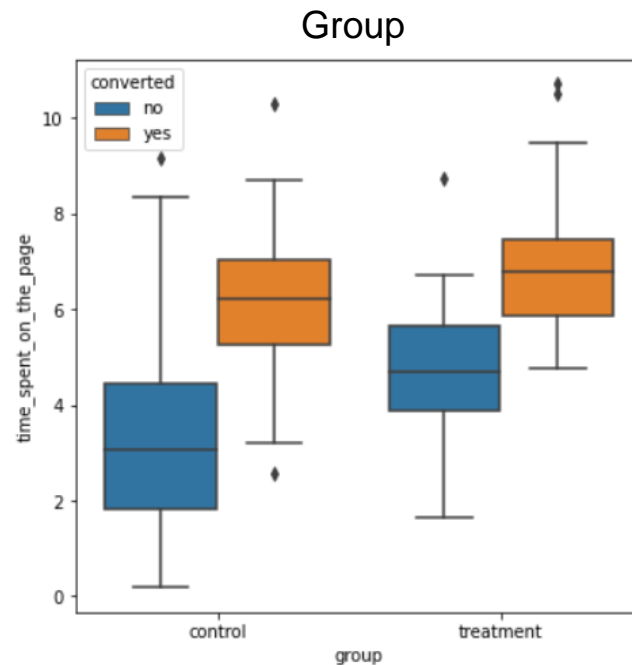
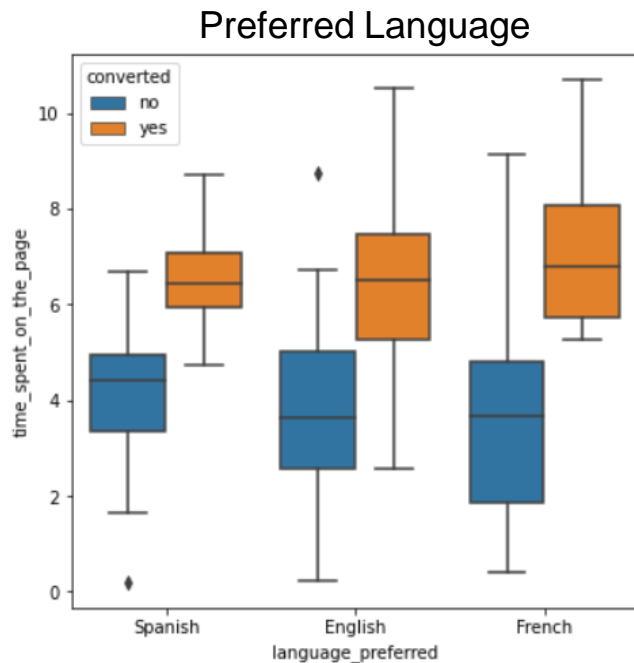
- The mean time of each preferred language visitor is:

Language	Mean
Spanish	5.835 minutes
English	6.664 minutes
French	6.196 minutes



# Exploratory Data Analysis – Time Spent on Page

- The time spent on the landing page, regardless of the visitors or preferred language or if it is the old or new landing page, appears to be a driving factor for conversions.



# Statistical and Business Insights

- Statistics were conducted at a 95% confidence interval to determine which variables statistical improve landing page visitors converting to E-news Express subscribers. As the group and landing page variables are synonymous, they will be referred to as group hereon.

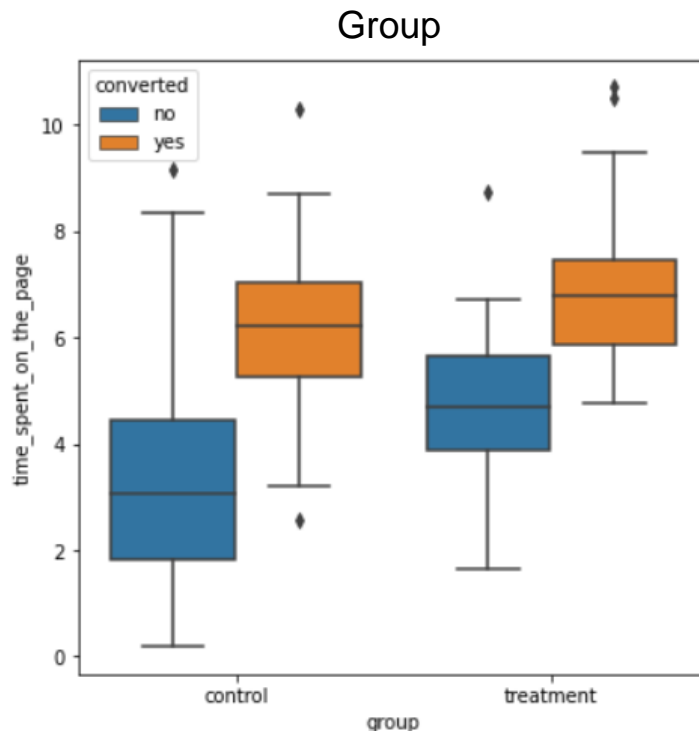
Variable	Statistical Insights
Group	Although the new landing page created more conversions, statistics determined the landing page was a negligible factor. In other words, other factors drove the conversions instead of the new page.
Language Preferred	A visitor's preferred language did little to sway individuals to convert. Whether an individual spoke Spanish, French, or English, visitors became subscribers for reasons other than their language.
Time Spent on the Pages	The time spent on pages statistically is directly correlated with the conversation rate. The greater time a visitor spent on the pages, the more likely they were to become subscribers.



# Statistical and Business Insights

## New vs Old Landing Pages

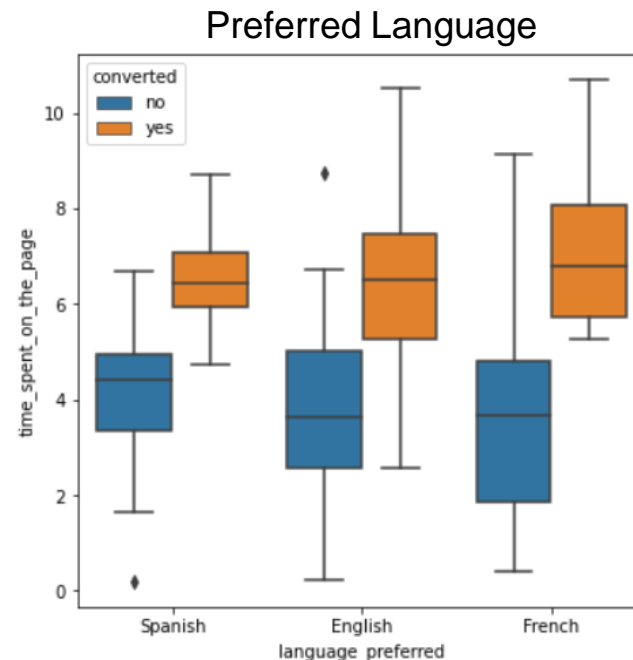
- Although the new landing page was able to convert 33 visitors to subscribers compared to 21 conversions for the old page, statistics revealed the landing pages were negligible variables for driving conversions and visitors spent a similar amount of time on each landing page. The factor that drove conversion was time spent on each page. As you can see on the box chart to the right, approximately 75% of conversions were visitors who spent 5-9 minutes on the landing portal regardless of whether it was the new or old landing page.



# Statistical and Business Insights

## Preferred Language

- A visitor of the landing pages becoming a subscriber is not dependent on a visitor's preferred language. Statistically the mean time each preferred language speaker spent on the landing pages was same. The data collected revealed that Spanish, English, and French speakers all share the similar characteristic that the time spent on the landing pages is the driving factor for each visitor being converted into a subscriber.



# Business Recommendations

- E-news Express must drive landing page engagement to encourage visitors to remain on the site longer. This should increase the conversion rate of the visitors.
- Ways to increase landing page engagement
  1. Develop interactive news content
    - I. Hyperlink related stories
    - II. Add “Would you like to know more” button to be sent to a more detailed version of the story
    - III. Create a “Share with a friend” button for users to send links to friends. Not only does this make the landing portal a platform that is more attractive to advertisers, but it also creates peer-to-peer free marketing
  2. Incorporate short games such as word searches or cross-road puzzles
  3. Sporadically create animated news content like Google’s search page



Happy Learning !

