New Technology Ideas in TV Audience Clustering

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Objective

Objective is to capture psychographics of panel members such as:

- Buying Behaviour
- Interest
- Believes
- Attitudes
- Goals

Outline

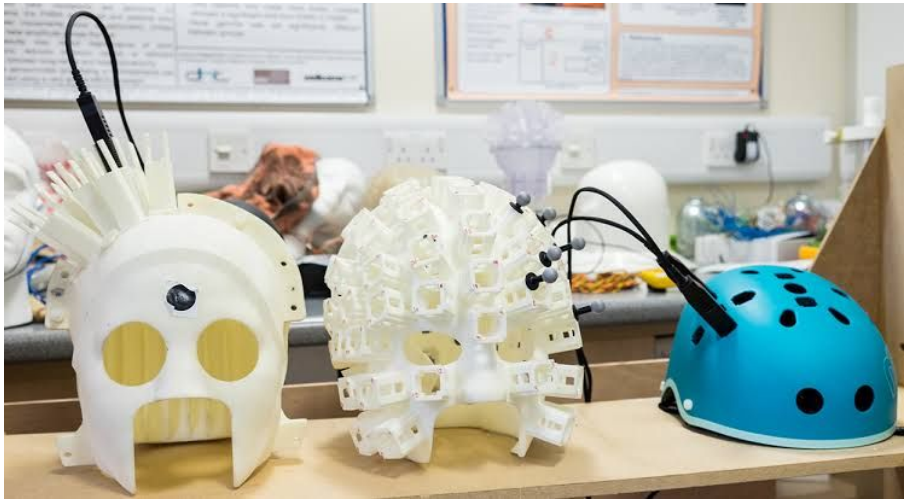
- Wearable Device
- Changes in the payment System
- Optional upgrade in the app
- Tracking Expenses
- Surveys

Wearable Device

- EEG - Electroencephalography

Wearable Device

- fMRI - functional Magnetic Resonance Imaging



Wearable Device

- Researchers have developed methods to reconstruct what a person is thinking based on EEG.

- But EEG can track changes in activity over fractions of a second, but it does a poor job of pinpointing exactly where the activity occurs or measuring it in deep.

Wearable Device

- An fMRI can peer deep into the brain, but it tracks activity over the course of several seconds.
- We can combine readings of both these devices to get more accurate predictions.

Wearable Device

- After recruitment, we will interact with panel members.
- This interaction will be designed to make them think about their interests, values, believes, lifestyles, etc.
- While interacting, they will be wearing the device (EEG/fMRI), so the AI will be recording their psychographics.

Wearable Device

Psychographic data captured through this method are:

- Interest
- Attitude
- Believes
- Values

Wearable Device
Advantages

- Target all kinds of panel members even those who are from rural areas.
- It is resistant to biases.
- One device can be used for many panel households and thus overall cost would be less.
- Non-invasive.

References

- Wikipedia
- Mind-reading AI that reconstruct thoughts based on brain waves
- Wearable and wireless EEG-based brain-computer interface device with novel dry foam-based sensors

References

- Methods for Simultaneous EEG-fMRI
- A helmet records wearers' brain activity using magnetoencephalography (MEG) while they move around

Why will EEG remove the bias?

- Different Types of Bias:
  - Sampling Bias
  - Nonresponse Bias
  - Response Bias
  - Question Order Bias

Why will EEG remove the bias?

- Nonresponse Bias:
  - Even if we have a perfectly random sample, not every group will respond.
  - Even though there is no foolproof way to avoid this bias, we are giving incentives to our customers (in terms of bonus points).
  - So, we are trying to eliminate this bias as much as possible.

Why will EEG remove the bias?

- Response Bias:
  - Even if everyone participates in the activity/survey, they may not take it seriously and give inappropriate responses.
  - As EEG and fMRI is recording their thoughts, this type of bias will not affect survey results.

Why will EEG remove the bias?

- Question Order Bias:
  - In some cases, the initial questions could influence the answers of the respondents to the subsequent questions.
  - Care must be taken to order the questions to be asked during the interview.

References

- 4 Types of Bias in Research and How to Make Your Surveys Bias-Free

Changes in the Payment System

- Split the full payment in base payment and bonuses for
  - Scene of the Day Contest
  - Tracking Expenses
  - Surveys

Optional Upgrade to the App

- Panel members having a smartphone will be given an option to register for BARC app, registration will offer bonus points.
- App can be used as BAR-O-meter remote (i.e. BAR-O-meter will start registering the information after the button is pressed on the mobile app).

Optional Upgrade to the App

- Only one panel member can register on one mobile phone.
- The app will also give options for daily surveys and expenses tracking.
- When the Panel member starts recording and pushes the BAR-O-meter app in the background app will report to the BAR-O-meter that the panel member is not watching the show actively.

Optional Upgrade to the App

- The app will have a **Scene of the Day Contest** section in which they can upload one snapshot of that day streaming.
- Based on people's upvote and downvote, we will get some psychographic data not only of that particular person but also of the people who will vote.
- Panel members voting the most voted scene will receive bonus points.

Tracking Expenses

- Panel members will be offered to upload their bills (offline as well as online) in the app, and in return they will be rewarded with cashback.

- This will help in capturing their buying behaviour.

Tracking Expenses

Certain constraints :

- Bills, on which cashback will be rewarded, should only be in the names of panel members.
- Cashback will be decided based on certain algorithms to prevent it from crossing threshold.

Surveys

- Surveys are fast and useful but they can also be dangerous.
- Asking direct psychographic questions may also lead to bias in the answer.
- Surveys can be refined to ask indirect questions that can capture psychographic data in a seamless manner.

Surveys

- May be surveys based on shows or advertisements seen by the panel members?
- Can be used to capture the interests and need of the panel member.
- Reviews of the panel members give a great insight into his thinking and personality.

Surveys

- App offers optional daily surveys based on the advertisements and shows viewed by the panel members.

- Surveys offer bonus points that can be converted in discount coupons/money (similar to Google opinion rewards).

Conclusion

- As wearable EEG (non-invasive EEG) is costly, a team can be set up that can conduct EEG surveys in different cities and cover the whole country.
- We can capture more features for psychographic segmentation by introducing wearable EEG and different activities in the app.