

IMPORTANCE OF RELATIVE ERROR

We take this opportunity to thank all our Stakeholders, Vendors, Partners and Associates for helping us reach milestones in the journey we have embarked upon together.

Thanks to all Broadcasters for their faith and encouragement with their investment in the installation of Watermarking Embedders. With upwards of 275 Channels having ordered for Embedders, all major networks in each region and across genres are on-board. This shows their conviction in participation to create history with the World's largest television audience measurement system.

Thanks to Advertisers and Media Agencies who have been most welcoming on our 'Reach-Out meetings' post the BARC India Roadshows. Their feedback on how and what's of data usage has helped us sharpen the front-end User interface into a first class User experience. As we continue to connect individually with as many as we can, we are listening to feedback and insights for further development.

Playout monitoring facilities are in action too and meta-tagging of content across Watermarked Channels is in full throttle in Mumbai and Bangalore. It is indeed another brick in the wall...as tweeted below by Mr. Punit Goenka, Chairman BARC India.



We have tested the end to end integration of the system and it is working perfectly fine. The technology handshakes are in place and Ratings are being generated from the BARC system now. The same was also tweeted by us recently.



It's our endeavor to interact, engage and share with our stakeholders - key developments and initiatives as we continue to unravel the puzzle of TV audience measurement system in India.

We are sharing few learnings and insights on the importance of Relative Errors and Confidence Levels in audience measurement for new beginnings this New Year.

BARC India and the importance of Relative Error

Over the past few months, BARC India has highlighted its commitment to data robustness and has spoken about lower Relative Errors at high Confidence Levels. We have repeatedly highlighted that Relative Errors are an important factor to be considered whenever we evaluate the ratings data, or read any research report, for that matter.

Let us explain these terms and the impact these have in reading of any research data.

Relative Error and its Impact on Research Data

It is not possible to sample every individual (except perhaps, a Census). Hence, sample surveys are undertaken. Statistics offers scientific methods to estimate phenomena across entire populations by studying samples. Any sample survey suffers inherently from various errors. Owing to these, Statistics never talk about an average (or mean) without talking simultaneously about a measure of dispersion, usually the standard deviation.

A researcher has to balance between demands of greater accuracy and constraints of finite resources. Statisticians therefore work with defined 'Confidence Intervals' and 'Sampling Errors'. One of these sampling errors is the 'Relative Error', or the deviation (in percentage) of the observed value from the actual (expected) value.

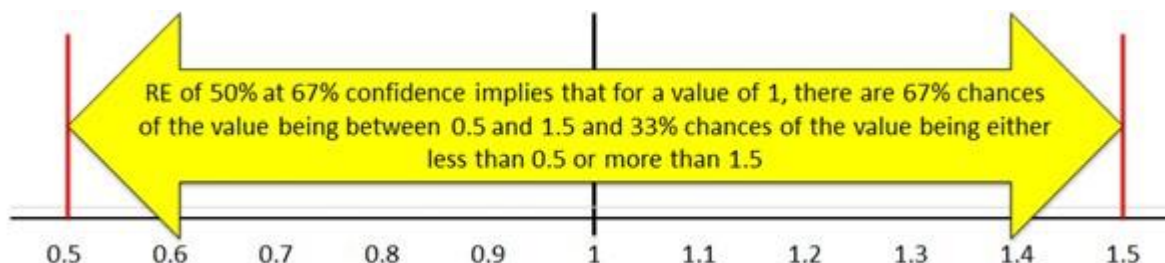
Confidence Level (or Confidence Interval)

Confidence Level is generally defined as a percentage or a decimal figure less than 1. So, if a researcher says that the Confidence Interval is 90%, what he means is that 90% of the samples of the same size taken from the same population will produce results within a defined range.

Relative Error

Let's explain it simply with the example of a TV programme. A TV ratings measurement system estimates that the programme has 1 TRP with a standard deviation of 0.25. This means that the actual rating is expected to lie between $1-0.25$ and $1+0.25$ or 0.75 and 1.25. The relative error is simply $0.25/1.0$ or 25%.

A simplistic explanation that may antagonise a purist, but can be explained simply in the following diagram.





In other words, it is important for a research to ensure least possible Relative Error at the highest possible Confidence Level, else it risks generating data with such wide variance that it becomes meaningless! Just imagine saying that a programme has 1 TRP at the above Relative Errors. What you're really saying is that there is a two-thirds possibility that the TRP is between 0.5 and 1.5 and a one-third possibility that the TRP could be either lower than 0.5 or higher than 1.5! And even for this, you are only 67% sure. If someone asks you what is the range of possibilities for which you are 90% sure?

Factors affecting Relative Error

The most important factor that affects Relative Error is Sample Size. Relative Error increases in geometric magnitude as sample size decreases, while it becomes independent of sample size beyond a certain threshold.

Sampling is also relatively simpler when estimating a homogenous population and more complex for heterogeneous population. It is hence extremely important to have a significantly large sample size, especially when calculating estimates for large heterogeneous universe.

How BARC India intends to handle issues related to sample size to ensure robustness of data

Let us consider a hypothetical scenario:

A planner wishes to evaluate programme viewership for the following

TG for a premium brand - Males, NCCS AB, 40+ in Delhi

Total Sample Size: 130

Approx. Sample Size for a programme with a rating of 1% viewers: 13

A sample size of 13 is way too low to do any meaningful evaluation. Hence, BARC India would not encourage such evaluations.

To circumvent this issue, BARC India intends to aggregate the data through one of the following means-

- Aggregate viewership data across two or more weeks
- Add more cities to the sample, aggregating geographically



- Instead of considering a particular individual programme or a limited time, evaluate a daypart, thus aggregating by time bands

Each of the above methods would increase the sample size and would allow the planner to make his decision based on robust relevant data. The BARC India Technical Committee is evaluating options of either hardcoding the aggregations in the pre-publishing stage itself, or allowing the planner to decide the aggregation based on his / her requirements. This decision would be taken only after seeing the data for all panel homes and assessing the pros and cons of each method.

We are also planning to conduct another round of roadshows in early Feb'15 on the GUI(User Interface) and you shall hear from us soon.

Hope you enjoyed reading these insights as much as we liked sharing them for you.

So, here's to insightful new beginnings in 2015.