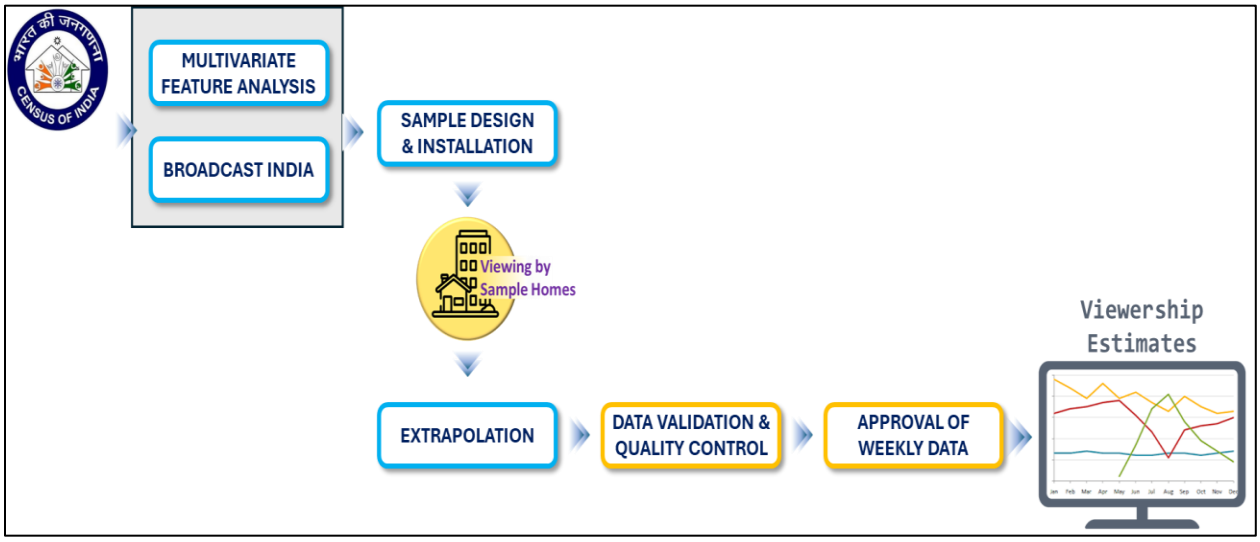
About BARC

Broadcast Audience Research Council (BARC) India is a Joint Industry Body founded by stakeholder bodies that represent Broadcasters, Advertisers, and Advertising and Media Agencies. Built upon a robust and future-ready technology backbone, BARC India owns and manages a transparent, accurate, and inclusive TV audience measurement system. TV Viewership Estimates generated by BARC India powers efficient media spends and content decisions in a highly dynamic and growing television sector.

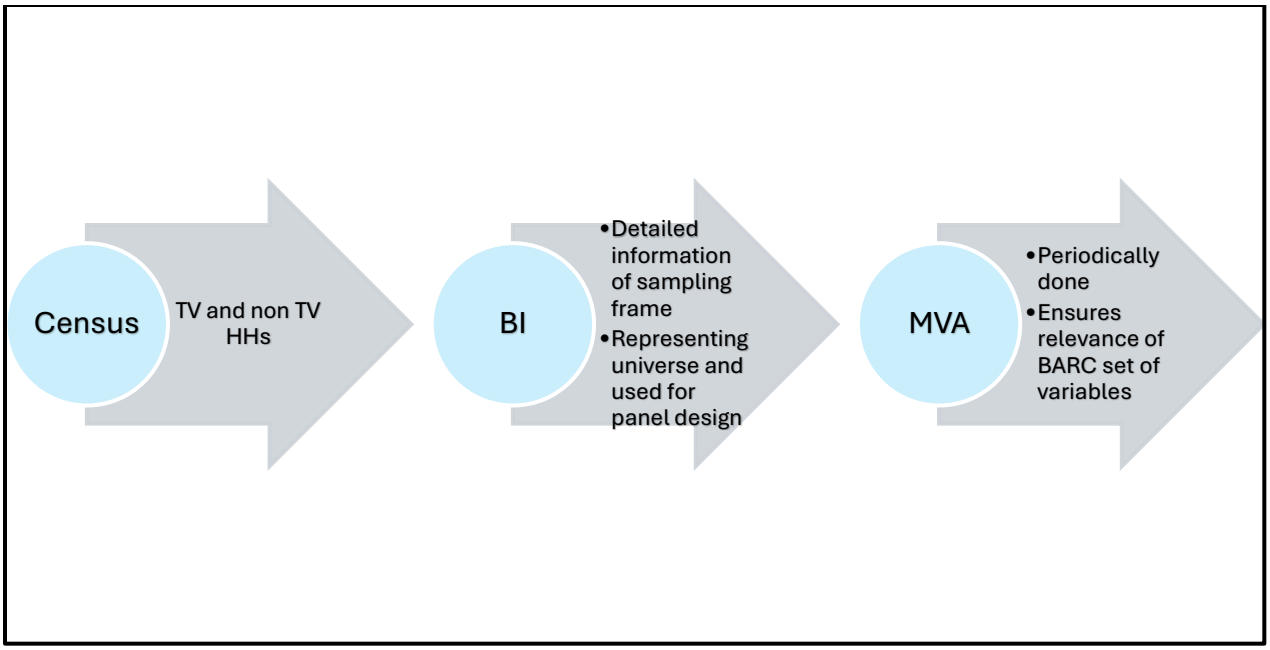
Overview of BARC India's Measurement Methodology and Process Flow



1. **The sequential components of BARC India's measurement process are as follows:**

A) Understanding the TV Population of India

- The Census of India provides the starting point for BARC India's Measurement Process framework. Objective is to be able to design a representative sample, first requirement is to understand the population of India.:
    - Census provides a clear number base of total number of Households (HHs) in the country with a split of TV and non-TV HHs.
    - This information is then used for further detailed HH level enumeration.
    - The process used for detailed HH level analysis is termed as BARC India's Establishment Survey (Broadcast India, BI).
    - BI also helps with understanding growth rates of the population through intercensal periods (periods between 2 consecutive census).
- Alongwith BI, a periodic study is conducted and validated through TechComm involving external consultants / eminent academicians belonging to premier academic institutions of Indian Statistical Institutes (ISI) and Indian Institute of Management (IIM). This study uses multivariate analysis-based approach to identify the influential variables impacting viewership. This study ensures the relevance and representativeness of the set of variables used by BARC for panel design and viewership collection.



B) Sampling design: The BARC India panel is recruited in a two-stage process.

a. **Stage 1:**

i. Broadcast India (BI) Establishment Survey (ES) is a large-scale face-to-face survey of a sample of approximately 3 lakh households from the target population.

ii. The ES helps to determine the universe of TV owning households with different profiles and characteristics as captured in the BI questionnaire at both HH and Individual levels.

iii. It creates a sampling frame representing the 347 million HHs (TV and non-TV).

iv. This sampling frame is then used to create sample design, which is used to extrapolate and project the viewership behavior of Universe. (Details with examples in Section 1.3.1.1, Page 2, DOM)

If there are instances where there are not sufficient ES records to meet panel recruitment needs, additional households are added to the sampling frame through the process of a listing study (LS). Systematic Sampling is used for listing purpose (Details with examples in Section 1.3.1.1, Pages 2 - 3, DOM)

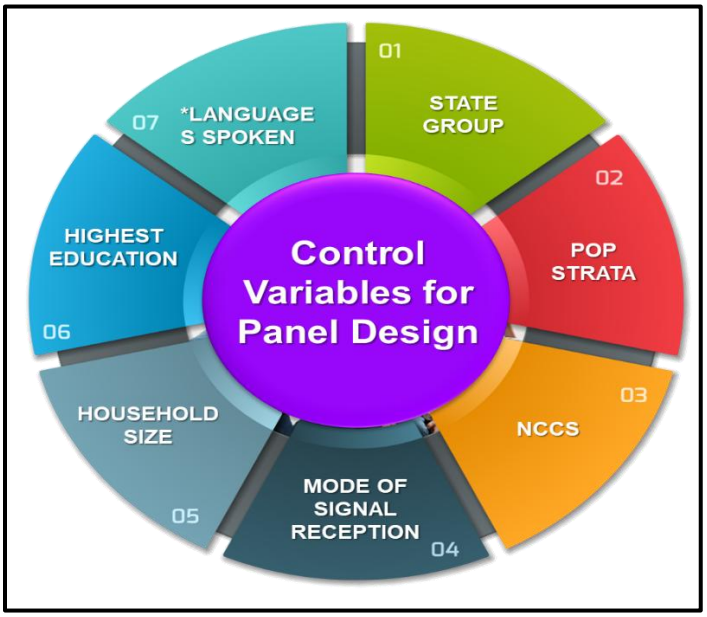
b. **Stage 2:**

i. **Sample design:**

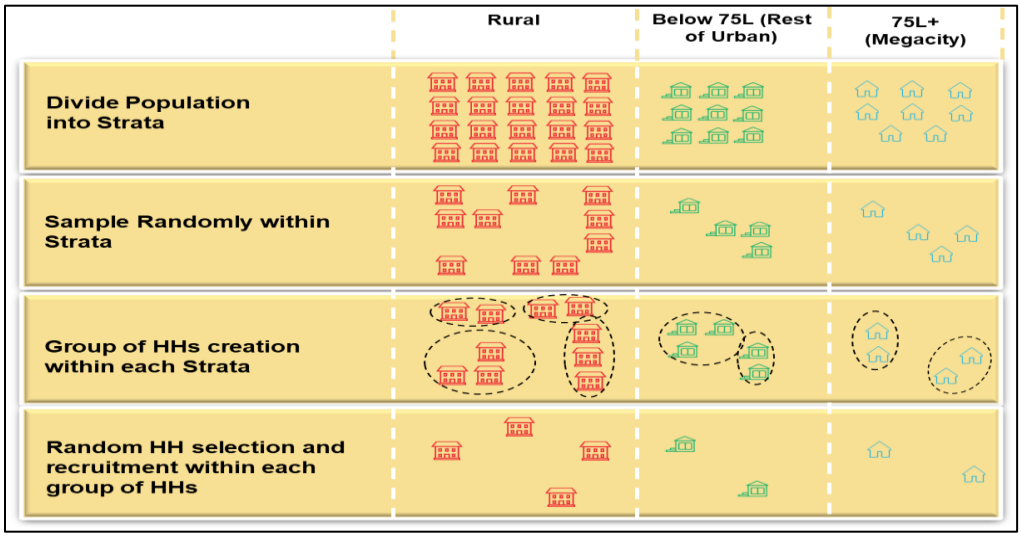
Well-developed classical scientific principles are leveraged to ensure randomness in the sample design for which Probability Sampling techniques are deployed. Specifically Stratified random sampling

technique is used to ensure complete and unbiased representation of the television audience universe.

7 panel control variables are used as the stratification criteria, represented in the below diagram. These control variables are validated from time to time through conducting multi-variate feature selection to ensure the design composition remains updated and relevant.



A simple and lucid illustration of the overall sampling scheme is provided in the form of a diagrammatic representation as follows:



(Details with examples in Sections 1.3.1.2, 1.3.1.3, 1.3.1.4, 1.3.1.5, Pages 6-7, Section 2.5, Pages 13 – 17, DOM)

ii. **Recruitment and Installation:** It involves recruitment of households and installations of meter in these households.
Regular listing is conducted to ensure that we have a sufficient pool of households to recruit from basis our design need. This pool of household becomes the base for recruitments where TV meters are installed.
Rotation of Panel Households are carried out on a continuous basis as per MIB guidelines. (Details with examples in Sections 1.4, Pages 3-8, DOM)

C) Extrapolation:

BARC India uses a two-stage hybrid weighting approach leveraging Cell and Random Iterative Method (RIM) weighting techniques designed to maximize the reliability of the sample data and minimize any statistical bias. This is achieved by performing the least amount of weighting required to correct for sample disproportionalities that may distort the estimates of the audience.

In the first stage, BARC breaks the total television panel into 72 sub-panels, or cells, a process akin to cell weighting. In the second stage, RIM weighting is applied on each of the 72 sub-panels.

The panel is weighted separately for household and individual level ratings with each level carrying its own set of weighting variables. (Details with examples in Section 2.1, Pages 9 – 15, DOM)

D) Data Validation and quality control and weekly approvals:

Data validation is an important part for estimation of population parameters (e.g., the TV viewing of individuals) through samples used by BARC currency panel. When sampling-based estimates are used, an outlier could have a significant impact on population projection. For example, in a panel HH, an individual having regular viewership pattern of 4-5 hours a day, suddenly exhibits viewership of 10-12 hours. This could be a genuine viewership shift or an induced one.

Simply speaking, an outlier can be described as an observation that lies at an abnormal distance from other values in a random sample from the population. It can manifest at various levels like individual level data, household level data, or even channel level data.

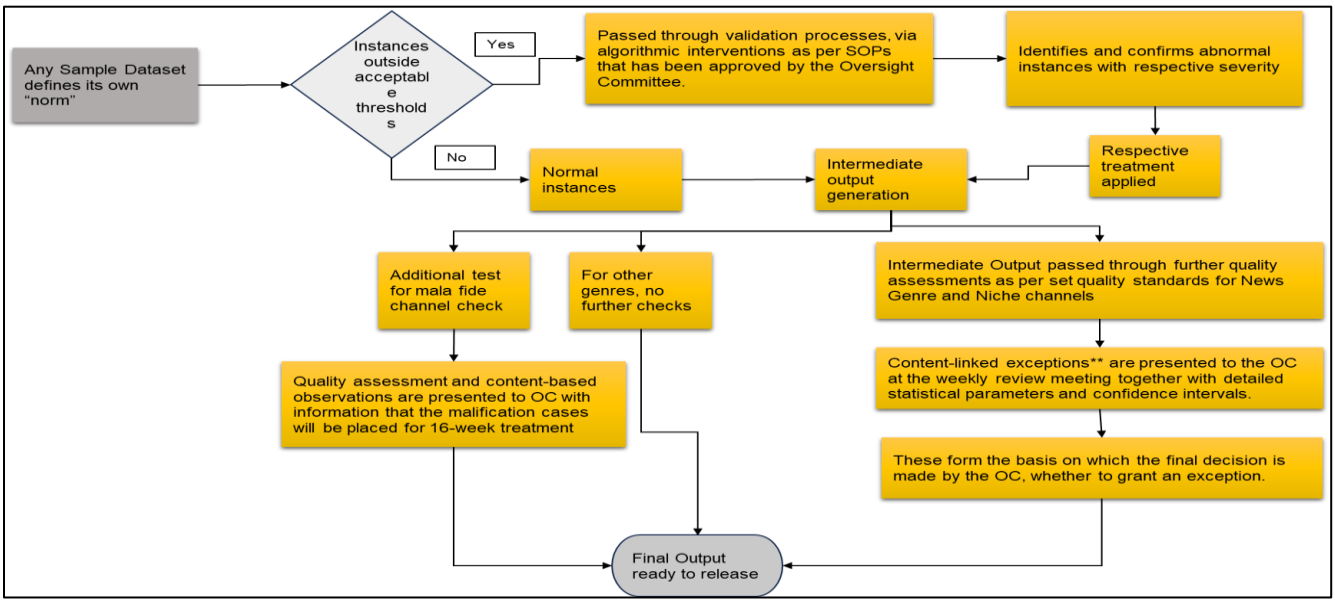
An outlier could be both, representative as well as non-representative. BARC has created a robust framework of quality assessment checks to ensure capturing, validating and treating

(if required) any abnormalities in the viewership data received through panel households. in consultation with statistical experts and premier analytics consulting firms.

The major steps followed are:

1. Outlier thresholds developed using sound statistical techniques
2. Multiple simulations run to assess the threshold impact to ensure optimum quality assurance
3. Subsequent findings are presented and discussed with oversight committee and once approved are deployed.

A high-level data quality assurance framework is as below:



** Content-linked exceptions illustrations:

- Genre level exception: Break out of global conflict involving USA, Israel and IRAN: led to genre level heavy viewership within News genre.

- Channel level exception: A big conclave or award ceremony hosted by a specific channel leading to heavy viewership as compared to other channels during same period.

Overall approach adopted by BARC could be found in the white paper titled "data processing and validation processes" embedded in the DOM (section 4.2, Page no. 21).

Rating calculations using anonymized RLD (response level data):
An illustration for Mah / Goa, Megacity, specific to a new consumer classification system (NCCS):

There are two major output files used for BARC currency calculations:

1. Demography file: It contains demographic level information of the individuals active in the panel on a particular day.
2. Statement file: It contains the viewership duration of the individuals active in the specific day.

Demo File Illustration: Each row represents demographic details of one individual								
Individual active on the day	New Consumer Classification System (Appendix 2, DOM)	Date of viewership data	State group as per GOI census	Pop strata	Age group of individuals as per their respective ages	Gender	RIM weight (as explained in Point 3 above)	Mode of signal reception (Free =1 / Pay = 2)
HHID_Ind_Keyid	Nccs	event_date	state_group	town_class	age_group	gender	weight	platform_type
1344665488	C	20250926	Mah / Goa	Mega City	41-50	MALE	2970.1	2
1345383634	C	20250926	Mah / Goa	Mega City	51-60	MALE	2047.001	2
1345383641	C	20250926	Mah / Goa	Mega City	2-14	FEMALE	6655.13	2
1346334749	C	20250926	Mah / Goa	Mega City	2-14	FEMALE	6655.13	2
1344665490	C	20250926	Mah / Goa	Mega City	15-21	MALE	6503.608	2
1345383637	C	20250926	Mah / Goa	Mega City	31-40	MALE	4742.733	2
1345563249	C	20250926	Mah / Goa	Mega City	31-40	FEMALE	3615.379	2
1345383639	C	20250926	Mah / Goa	Mega City	22-30	FEMALE	8334.494	2
1345563250	C	20250926	Mah / Goa	Mega City	15-21	FEMALE	6073.973	2
1346334748	C	20250926	Mah / Goa	Mega City	2-14	FEMALE	6655.13	2
1344665489	C	20250926	Mah / Goa	Mega City	41-50	MALE	2970.1	2

Statement File Illustration: Each row represents viewership details of one individual				
Individual active on the day	Viewership session start time	Duration spent on watching channel	Channel viewed	Date of viewership data
HHID_Ind_Keyid	Start	duration	channel	event_date
1518143568	48540	1980	1016046	20250926
1518143568	50520	60	1010278	20250926
1518143568	50580	1500	1010278	20250926
1518143568	52080	60	1010278	20250926
1518143568	52140	2580	1010294	20250926
1518143568	76080	60	1015444	20250926
1518143568	76140	60	1010325	20250926
1518143568	76200	60	1010397	20250926
1518143568	76260	60	1010356	20250926
1518143568	76320	60	1016046	20250926
1518143568	76380	60	1010355	20250926
1518143568	76440	60	1010355	20250926
1518143568	76500	60	1010355	20250926

Demonstration of BARC currency calculation: Using the RIM weighting methodology mentioned in Point 3 above (details in Section 4.3, Page 21 in DOM), each day, for every individual, weights are generated, and using these weights, below BARC metrics is created:

1 - Sum of Weighted Duration	810924347
2. Sum of unique id Demo Weights of Viewers	**3034525**
3. Reach'000	3034.53
ATS = (Sum of weighted duration / Sum of unique id Demo weights of viewers)/86400	0.19
4 - ATS (v)	04:27:14
Total Population	**4852260**
5 - Target in Thousand	**4852.26**
6 - Reach % (Reach'000 / Target in Thousand)%	**62.54%**
7 - AMA for Day (Reach'000 * ATS)	**563.14**
8 - Rating % (AMA for Day / Target in Thousand)%	**11.61**

Final currency table:

Metric description	Metric Definition	Metric value (for the anonymised data set published)
Viewing minutes	It indicates the total viewing minutes of the universe using the weighted sample duration data	810924.34
Daily average reach ('000)	It estimates the total number of individuals tuned to any event for minimum 1 minute	3034.53
Reach %	It estimates the % of individuals tuned to any event for minimum 1 minute	62.54
AMA ('000), Average minute audience	Average number of individuals watching TV in target group in a given minute	563.14
Rating (%) (relative equivalent to AMA)	% of Average number of individuals watching TV in target group in a given minute	11.61
ATS (viewer) minutes	Average viewership time spent by the target group	267.23