



MODERN CONSUMER PANEL RESEARCH

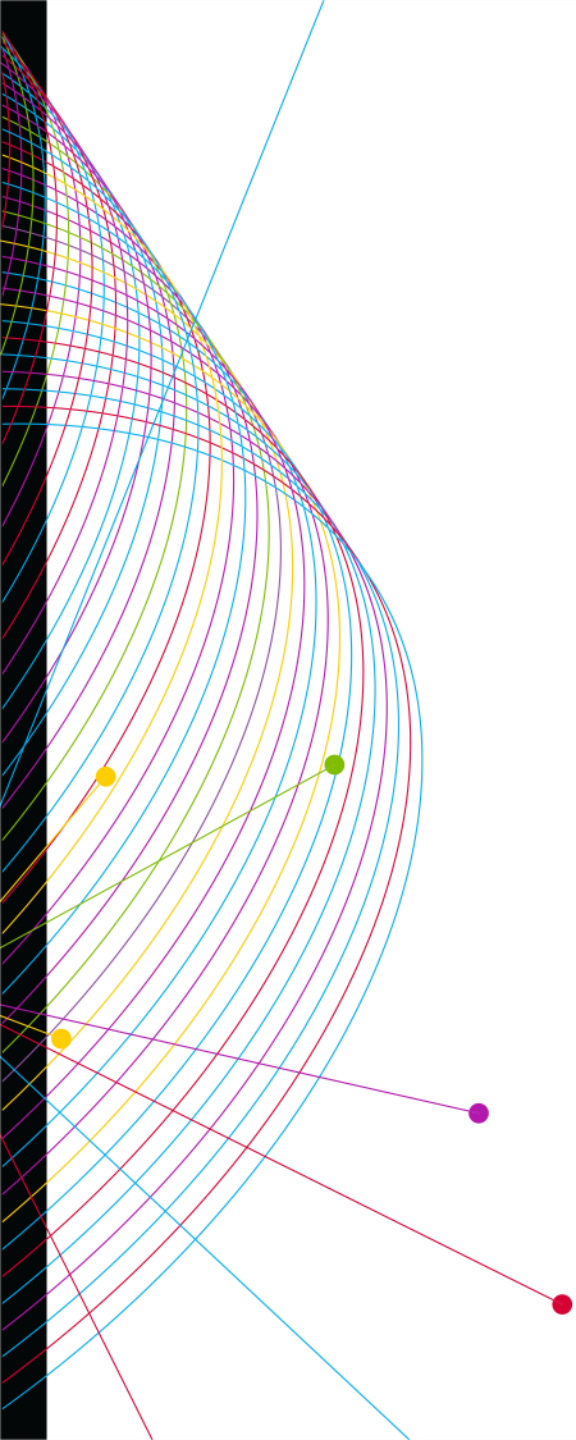
TRENDS, TECHNIQUES, AND INNOVATION IN
CONSUMER MEASUREMENT

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OUTLINE

1. Introduction to Nielsen
2. Panel Research Challenges
3. Innovation in behavioral projection
4. Big Data with Panels
5. Using a truth source to evaluate quality
6. Calibrating and completing third party data

INTRODUCTION TO NIELSEN





OUR MISSION

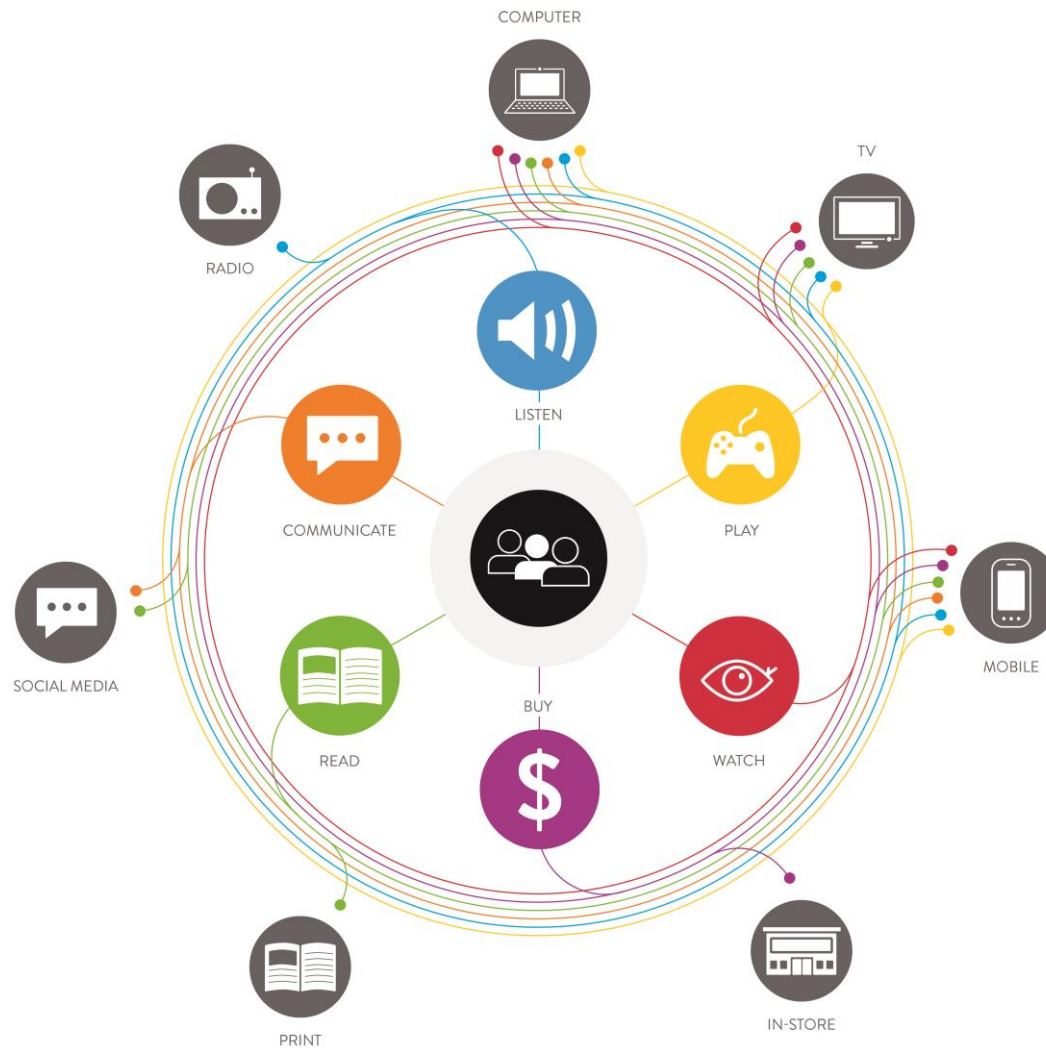
The most complete understanding of consumers worldwide.

OUR PROMISE

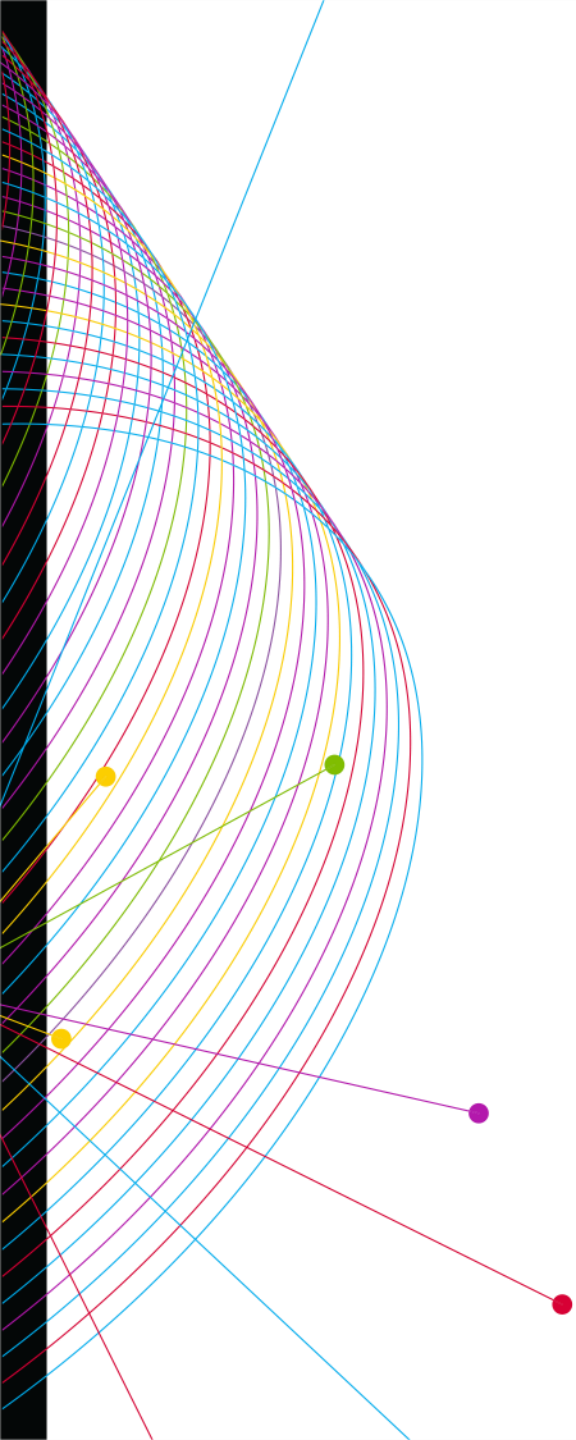
An uncommon sense of the consumer for faster, smarter, more confident decisions that ***drive growth***

FROM DATA TO MEASUREMENT

Simplifying the Complex



PANEL RESEARCH CHALLENGES



TRADITIONAL PANEL MEASUREMENT

Facing pressure from several factors – Trying to measure MORE while maintaining statistical reliability



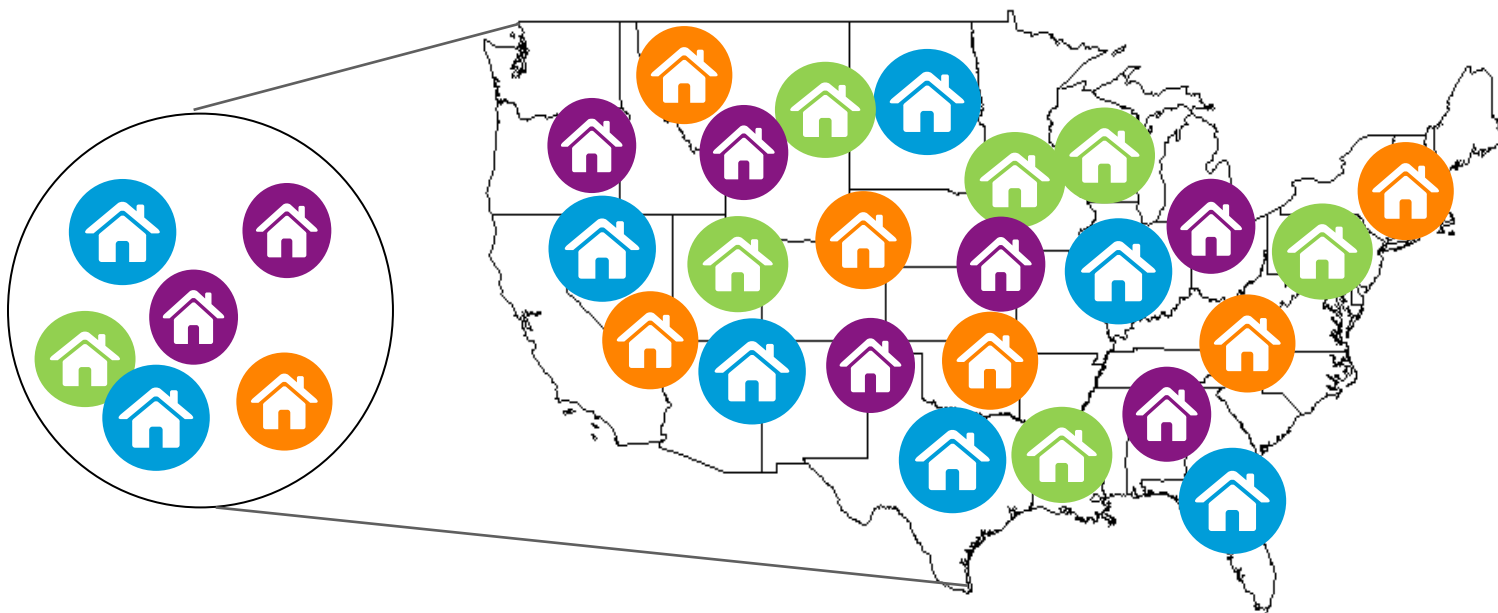
1. Declining cooperation and participation rates
2. Challenges in obtaining true probability samples
3. Fragmentation of behavior



INNOVATING PANEL PROJECTIONS

PROJECTION BASICS

Project sample households to a universe of households



PROJECTION DESIGN

Demographically and Geographically represented



- Demographically
 - HH Size, Income, Head Age, Female Head Education, Male Head Education, Race, Hispanic, Head Occupation, Presence of Children
- Geographically
 - Total US, Major Market, Census Regions

MISSING BEHAVIOR

2,000 panelists
Population of 2,000,000
4 Coca-Cola purchases/panelist
=8,000,000 Coca-Cola units

10,000,000 units of Coca-Cola sold

Data from panelists
showing **what** they
bought, **when** they bought
it, and from **where**



Data from stores showing
how much they sold

SCAN, GRANULARITY, AND TRIP PROJECTION



PANEL DATA



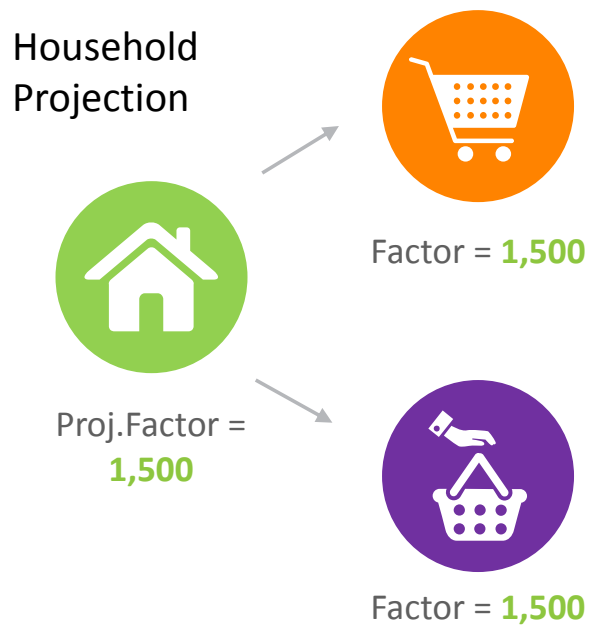
SCAN
TARGETS



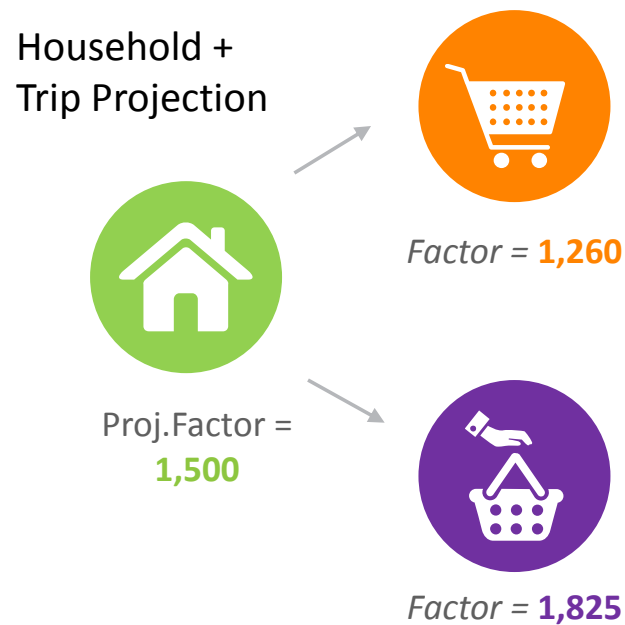
TRIP FACTORS

GRANULARITY

FROM

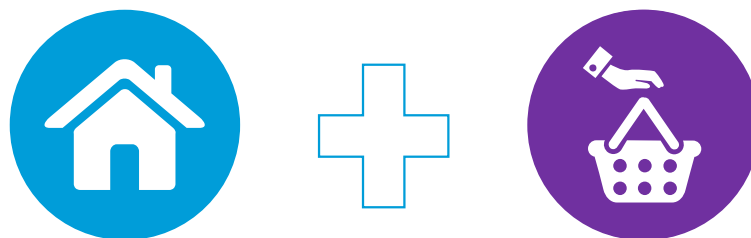


TO



Using each individual trips as the basis to create projection factors significantly increases flexibility to align with scan

TRIP PROJECTION



- Merging two concepts
 - Dual projection design; Household factor AND Trip factor
 - One household factor per household, one trip factor per trip
 - Creating a methodology that continues to utilize household factors helps in keeping the demographic integrity of our insights
 - Remaining question - are additional purchases allocated to panel homes, or missing homes? If purchases are projected downward, which panelists do they come from?



THE FUTURE: BIG DATA WITH PANELS

TRADITIONAL PANEL MEASUREMENT

Organic big data becoming more viable for measurement

-Explosion of data collected-

Facebook alone has over 30 petabytes of user data generated through user behavior *

-Storage and processing availability-

Cost of 1GB on April 1, 2000 - \$14.90
Cost of 1GB on March 4, 2015 \$0.03 **

-New analytic technology-

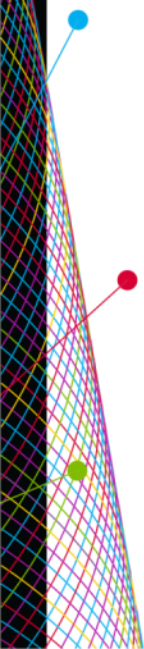
Cluster computing enables processing orders of magnitude faster ***

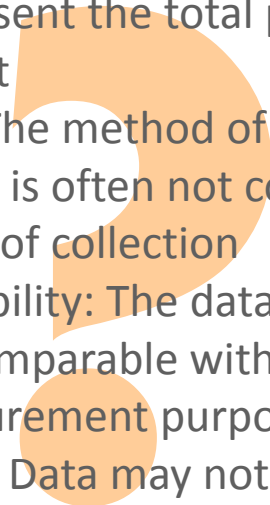
*<http://www.ibmbigdatahub.com/gallery/quick-facts-and-stats-big-data>

**<http://www.mkomo.com/cost-per-gigabyte-update>

***<http://spark.apache.org/>

USING BIG DATA

- 
1. Cost of collection: Many organic panelists may be cheaper than a single sampled panelist
 2. Coverage: hard-to-reach respondents can be measured organically
 3. Stability: larger data sources do not see a great impact from change in a few respondents or panelists
 4. Projectability: confidence increases with larger panels

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1. Representativeness: Many big data sources are self-selected, and may not represent the total population of interest
 2. Control: The method of data collection is often not controlled at the point of collection
 3. Comparability: The data itself may not be comparable with data used for measurement purposes
 4. Accuracy: Data may not be accurate due to missing controls, sources of truth, etc.



EVALUATING DATA QUALITY USING A PANEL TRUTH SOURCE

INSIGHT INFLECTION

Critical points in using third party data

- When evaluating quality of a third party data, it's critical to balance individual and aggregate metrics, keeping in mind that the purpose of the data is to help make a decision
- The point where accuracy of a data source is unsuitable is the point where it informs a different action than correct data



CALIBRATING AND COMPLETING THIRD PARTY DATA

SET TOP BOX DATA OVERVIEW



Cable and Satellite providers collect TV tuning information from TV Sets in the home

Benefits



Volume and Granularity of data

Increases Rating Stability

Fewer minutes with no audience

Report more stations

Challenges



Data Quality

Coverage

Bias

Person Level detail

COMPLETING THE DATA

Panel Home
-Known Demographics
-Measured Tuning

Composition



Set Top Box Tuning



Set Top Box Home
-Unknown Demographics
-Measured Tuning

Composition



Set Top Box Tuning



USING PANEL DATA TO FIND DEMOGRAPHICS

- We use behavioral patterns that are similar between panel and non-panel homes to infer the unknown demographics of the non-panel homes
- Proportionate usage is promoted through penalizing re-use



nielsen
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AN UNCOMMON SENSE
OF THE CONSUMER™

