UPDATE ON CIMM'S DATA MATCHING STUDY

Status Report



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The CIMM Study of Identity Resolution and Its Impact on Matched Datasets

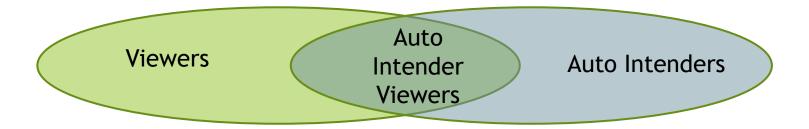
Janus Strategy & Insights, Pre-Meditated Media and Sequent Partners
February 17, 2022





Why?

Advanced advertising and attribution depend upon matching TV viewing data to audience characteristics and outcomes data



- Data records are lost in the matching process
 - ▶ Do we still have enough data?
 - ► Has the viewing or outcome data been biased in the process?
 - ► Are there best-practices for maintaining data integrity?





Who?

Thanks to those who are making this study possible ...

IDR PROVIDERS

- **EPSILON**°
- experian...
- CADENT
- **THROTLE**
- infutør
- TransUnion.
- Live Ramp



TEST DATA PROVIDERS

Viewing data providers:





Outcome data provider:

Place (QSR visits)

Audience characteristics data:

TBD

(Household demos)





How?

- Compare original test data to post-match test data
 - Match Rate? Data retention?
 - How did test data aggregate profiles change post-match?
- Eight matches:
 - 1. STB viewing data to IDR provider's Identity Graph
 - 2. Retail visit data to IDR providers Identity Graph
 - 3. STB viewing data to retail visit data
 - 4. Demo data to IDR providers Identity Graph
 - 5. STB viewing data to demo data
 - 6. ACR viewing data to IDR provider's Identity Graph
 - 7. ACR viewing data to retail visit data
 - 8. ACR viewing data to demo data





Pre-Phase: What Have We Learned

- ► The path IDR providers take to develop ID Graphs is varied
 - ▶ Some start with the household: postal address, Zip11
 - ► HH devices associated (e.g. CTVs)
 - ▶ Persons (or personas) associated
 - Personal devices associated (e.g. mobile phones)
 - Others start with devices or email addresses associated to persons and build-up to households
 - ▶ Depends on their foundational data sources
 - Some maintain separate HH and persons graphs and link them
 - Mostly deterministic, with some probabilistic associations





Pre-Phase: What Have We Learned

- ► IDR providers assemble as many match keys as possible, filling-in any gaps in their device graphs
 - ► HH: name, address, Zip11, lat/long, IP address, phone number, CTV IFR, user agent strings
 - ▶ Persons: hashed email, Maid, phone number
 - For this study, match keys: STB= address, CTV=IP address, QSR Visits=MAIDs, Demos=Zip1/1
- Quality assurance
 - ► IDR providers consult multiple data sources to check the likelihood of each match key association
- Privacy is the top priority
 - Firewalls, clean-rooms, personification, pseudonymization, anonymization, ...





Pre-Phase: What Have We Learned

- ► IP addresses are not fixed main causes: purposely cycled, router/internet interruptions
 - Freshness of data is critical
- Street address files may not be 100% accurate due to move rates
 - Some issue with single vs. multi-unit residences
- ► Majority of television STB data matches go through Experian
 - ► Legacy source for name-and-address records
 - Requiring two-step matching with outcomes and audience characteristics





Where Are We?

- Great efforts are made to ensure the accuracy, coverage and completeness of identity graphs leveraging tons of data
- ▶ But we still don't know what happens to viewing and outcome data as it is transformed through the matching process
- And what could be done to improve the process
- But we will know soon!
 - ► Pre-phase Report waiting for final veracity checks
 - Still chasing a few legal agreements.
 - Working out technical specs and timing for data delivery
 - Shooting for final delivery by June



