

Deterministic vs. Probabilistic

In a highly fragmented advertising ecosystem, a deeper understanding of the data that's powering marketing decisions is a critical component of success.

Deterministic Data

- ⚙ Data based on **absolute certainty**
- ⚙ Uses clear and known rules to know exactly who someone is
- ⚙ Binary "yes or no" match

Example Sources:

CRM/PII Data Email/Login Info Loyalty Programs



Benefits:

- ⚙ Highly accurate
- ⚙ Increases potential of higher target ROI
- ⚙ Verified attribution based on authenticated audiences

Challenges:

- ⚙ Reach dependent on known customers
- ⚙ Potential limitations on use of Personally Identifiable Information (PII)

Marketer Use Cases:

- ⚙ Addressable ad delivery
- ⚙ Highly personalized messaging
- ⚙ Enhanced loyalty campaigns

Probabilistic Data

- ⚙ Data based on **statistical likelihood**
- ⚙ Uses data and patterns to estimate who someone is
- ⚙ Predictive "likely" match

Example Sources:

IP Address/Location Search History Device Types



Benefits:

- ⚙ Increased likelihood of scalability
- ⚙ Lower privacy risk through anonymized signals
- ⚙ Enables optimization based on behavioral patterns

Challenges:

- ⚙ Lower precision through use of statistical "best guess"
- ⚙ Attribution based on likely matches

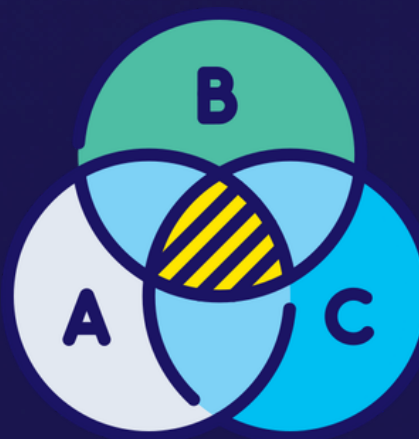
Marketer Use Cases:

- ⚙ Scaled audience expansion campaigns
- ⚙ Customer lifetime value predictions
- ⚙ Cross device identity resolution

The Hybrid Approach:

Deterministic PLUS Probabilistic

Common approach that utilizes both deterministic and probabilistic data. When deterministic match can't be made first, a probabilistic approach is implemented.



Benefits:

- ⚙ Combines accuracy and scale
- ⚙ Reduces wasted ad spend
- ⚙ Expands reach without losing precision

Challenges:

- ⚙ Limited transparency in matching process
- ⚙ Potential for lower stability across data inputs and outputs
- ⚙ Difficulty in differentiating deterministic vs probabilistic signals

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