OOH Performance Measurement
Marketing Mix Model and Attribution Glossary

This glossary only includes terms specific to OOH performance measurement via marketing mix models or attribution. For definition of industry and audience measurement terms, see:
https://oaaa.org/AboutOOH/OOHBasics/OOHGlossaryofTerms.aspx
https://geopath.org/glossary/

Bias
In media measurement, a measure of sample skew, in which some segments or characteristics of the audience are represented at a disproportionately higher or lower rate than they should be. Initial samples and data resulting from matches should be free of biases and proportionately representative of actual size and composition of the group relative to the total population, as measured by the Census or other authoritative benchmarks.

Brand Lift
Incremental consumer awareness, consideration or purchase intent of a brand generated by an advertising campaign.

Attribution
The statistical method of assigning credit to the media stimuli consumers encounter along the path to "conversion" – taking action, sales etc. – a "bottom up," consumer and transaction level model. Also known as multi-touch attribution.

Attribution Window
An attribution window (or conversion window) is a defined period of time in which an outcome response can be tied to a specific advertising campaign after the campaign has ended. It accounts for advertising's lingering effect on consumers long after the actual exposure.

Base Sales/Baseline
In Marketing Mix Modeling, base sales represent the portion of brand volume that would have been sold without any marketing/media support. These non-marketing/media driven sales represent the largest portion of most brands' sales.

Collinearity
A condition in which some of the independent variables are highly correlated, e.g., a linear relationship exists between two explanatory variables. In Marketing Mix Models, this results in an inability to tease out the effects of variables, such as an OOH campaign running the same time as a mobile campaign. Test and Learns can be used to detangle the media contributions. Not an issue in Attribution.

Coverage
The degree to which readable signals/data exists for an entire geographic area or demographic group. In attribution, exposure and outcome data must be available in the entire footprint of the advertising campaign, however defined.

External Influences
In Marketing Mix Modeling, factors that occur entirely beyond the marketers' control, but exert influence on the way advertising in a particular category behaves i.e., weather, consumer confidence, gas prices, etc. (Also known as exogenous factors).

Granularity
The level of detail associated with data inputs in a model. The greater the granularity, the deeper the level of detail and potential for actionable insights. Modeling at the finest level of resolution from a geographic, campaign and timing perspective improves the readability of the model.

Identity Resolution
The process of tying together (or matching) multiple data records from disparate sources through the use of "unique identifiers" so that all matching records represent a single user/entity. Typically tie together Mobile IDs, email addresses, cookies, latitude/longitude and IP Address data at a household or user-level, depending on the use case.

Impressions
Impressions are media exposure metrics indicating the number of times that persons (represented by their mobile devices) in the target audience had the opportunity to be exposed to an ad in a particular medium within a given period. In OOH, impressions come in two varieties. Opportunities To See (OTS) are measures of audiences passing through a viewshed of an OOH media location.   Likelihood To See (LTS) are further qualified for the likelihood that they have actually viewed the OOH ad, based on Geopath models developed from empirical data.

Incrementality
In attribution, incrementality reflects the sales lift over base sales that are driven by media stimuli. Distinguishing between base and incremental sales is extremely important in order to avoid misattributing sales that would have occurred naturally to a particular ad campaign.

Long Term Effects
Cumulative effect of advertising on consumers' brand choice/buying behavior, lasting over days, weeks or years. In attribution, reflected in the attribution window. Must be included in short-term response measures to reflect the true value of advertising.

Marketing Mix Models
Models involving the application of regression and other statistical approaches to estimate the impact of marketing elements on incremental sales. Historical data is used to fit the model, which then can be used for prediction of future outcomes (e.g., sales). They assess the effectiveness of spending by channel over and above a baseline of sales that would have occurred without any marketing efforts. Often called "Top Down" models. These models explain a high proportion of the variance in sales and typically include explanatory factors like seasonality, competitive activities and trade and consumer promotion. They are most frequently used to inform budget allocation across channels.

Media Interactions and Halos
In marketing mix modeling, a read of the degree to which media enhance or detract from each other's effects in a campaign. Typically, media are sequenced and coordinated for maximum, multiplicative effects. Often called synergies.

MTA Attribution – Multi-Touch Attribution
The process of assigning credit to the touchpoints consumers encounter along the path to conversion, when all touchpoints, online and offline are included. Sometimes driven by "rules" or algorithms that arbitrarily assign credit to one touchpoint; more often, driven by statistical models that infer the contribution of each touchpoint to conversion, e.g., traffic or sales. Challenging to include all offline and online media touchpoints.

Outcome Variables
The variable to be predicted by the Marketing Mix or Attribution model: sales, visits traffic, brand awareness/consideration, etc. They are the desired, measurable behavioral changes associated with an advertising campaign. Outcome variables are aligned with strategic objectives and can differ by campaign, brand and category. Complications demanding more sophisticated modeling arise when more than one outcome variable is identified, i.e., assessing the impact of OOH to improve brand attitudes and drive sales.

Other Marketing Variables
In Marketing Mix Models, factors besides media and advertising that impact sales, i.e., price, promotion, product features, in-store variables, competitive, and trade deals. These variables provide the full picture of marketplace pressure and consumer response. Models that do not include these factors fail to provide a holistic view and implicitly overstate the contribution of advertising to sales.

Representativity
In Attribution test/control groups are matched samples reflecting a broader universe. Accurately reflecting that universe is essential for accurate results. Without careful management, samples can differ from the universe many ways: in likelihood to see a campaign, conversion propensity, brand awareness, access to retail locations, socio-economic, cultural or other marketplace factors. If the test or control groups do not reflect the broader universe on key dimensions, any deficiencies must be remedied by weighting and projecting.

ROAS - Return on Ad Spend
Similar to ROI, but based on incremental revenue, not profit. A ratio of the incremental sales dollars generated by advertising spend. Typically used by media companies to reflect effectiveness of ad campaigns, reflects revenue generated for every dollar spent on advertising in a particular medium or campaign.

ROI - Return on Investment
A ratio of incremental net income (profit) generated by advertising spend. A financial performance measure used by marketers, ROI is used to evaluate the efficiency of advertising spend in a medium or campaign relative to profit contribution.

Test and Learns
In Marketing Mix Models, the practice of testing hypothesis about ads or strategies in a small

number of locations or audiences to predict impact. Typically, these experiments are embedded in a modeling program to assess things for which there is no history. It is a way to try out new ideas.

Test/Control
In attribution, a controlled experiment designed to determine behavioral lift (visits/sales/conversions) associated with exposure to a specific ad campaign. The estimate of the campaign's impact is only as good as the controls that distinguish the two groups. It is essential that all contextual factors, audience, propensity to engage in the outcome, etc., be perfectly matched to isolate the effect of the advertising exposures.

Weighting/Balancing Samples
Weighting is a technique involving re-balancing data to more accurately reflect the population and/or include a multiplier which projects the results to a larger universe. In attribution, if the data does not fully represent the product and consumer characteristics of the campaign's total coverage area, the attribution results should be projected to provide an estimate of the campaign's total impact. This is a simple multiplication to scale-up the impact in terms of counts of purchases, visitors, etc.

Upper Funnel/Lower Funnel Media Tactics
The purchase funnel is a metaphor for the number of people involved in each phase of a consumer journey. The starting point for the journey is awareness and consideration of brands. Thus, upper-funnel tactics are measured through brand metrics, survey-based indicators of brand strength and associations. OOH, like television, has been considered an upper funnel media tactic, despite its ability to generate response at lower levels of the funnel. Lower-funnel tactics are associated with stimulating more immediate sales or conversions. It is important to align measurement with the strategic intent of the media tactics in the campaign.

Validation
A measure of the accuracy and precision of modeled results. There are two common and complimentary approaches. Goodness of fit (MAPE: Mean Average Percent Error, or R2: percent of variance explained) describes how well the model replicates the historical data to which it was fit. Predictive validity: the same statistics can be used to evaluate how well a model replicates hold-out, or future data not used in the original model fitting process. In essence, the extent to which modeled results are well-founded and correspond accurately to real world results.