DOOH Audience Measurement 2015

Calculation of Key figures

GfK Switzerland
Hergiswil, March 2, 2016

Module A

- Location sample (on-site)
- Opportunities to make contact with the advertising medium and advertisement

Module B

- Representative population study
- Visitor frequencies for touchpoints/networks

Transfer

- Transfer of contact opportunities

Parameters

- Level of penetration (advertising medium and advertisement)
- Loop length (advertisement)

Gross contacts

Gross contacts are the sum of all contacts made during a certain period of time (for example campaign duration). Gross contacts are added without taking user overlaps into consideration, which means that it is not clear how many times the same person has made contact.
The following parameters are applied when calculating the **gross contacts**:

- visitor frequencies of the facility
- visit/use probability and contact opportunities
- duration of the campaign
- number of screen passers-by
- level of penetration
- daily depot (number of visits per day * number of contacts per visit)

- for advertisement: loop length as a factor in the calculation of probability

Net reach

The net reach refers to the proportion of the target group (for example population) as a percentage who have had contact at least once. In the case of net reach, user overlaps can be taken into account, so that every person who has had contact is counted only once, regardless of how often they have had contact.
The following parameters are applied when calculating the **net reach**:

- visitor frequencies of the facility
- visit/use probability and contact opportunities
- duration of the campaign
- number of screen passers-by
- level of penetration
- definition of the target group

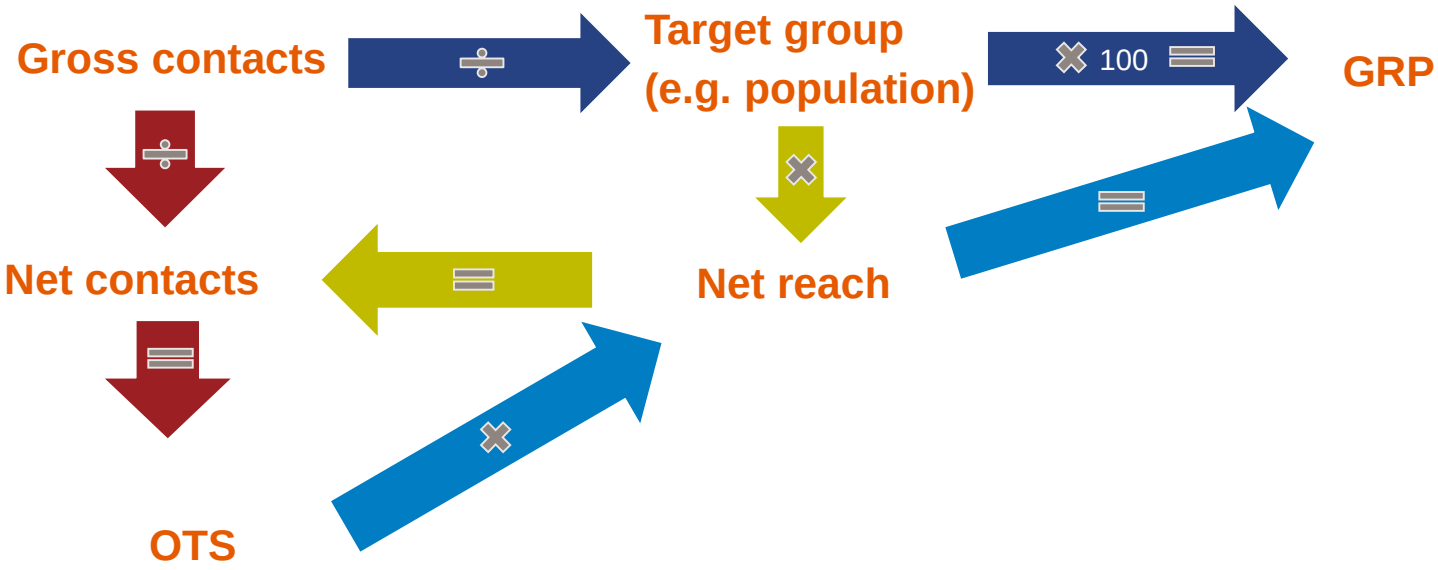
- for advertisement: loop length as a factor in the calculation of probability

OTS and GRP

OTS (Opportunity To See) refers to the average contact per person, which has been achieved at least once. The average contact (OTS) is the ratio between gross and net contacts, in other words, the number of all contacts (gross) divided by the number of contacts taking the contact overlaps per person (net) into account.

GRP (Gross Rating Point) refers to advertising pressure relating to the gross reach within the target group. The GRP is calculated by multiplying the net reach with the average contacts (OTS) and/or by multiplying the ratio of gross contacts to the target group by 100.

Calculation mesh



The values are each calculated at the level of the advertising medium and advertisement

Reach model: formulas

Model for calculating reach

These basic formulas are applied in Germany for all media as the basis for the calculation of net or gross reach (R)

Calculation of gross contacts:

$$R_{gross} = \sum_{i=1}^{n} p_i \times K_i$$

Number of people with at least one contact with an advertising medium (net contacts):

$$R_{net} = \sum_{i=1}^{n} (1-(1-p_i)^{K_i})$$

P_i probability of contact

K_i number of contact opportunities

Factors influencing the probability of contact with DOOH

Number of contacts with an advertising medium (gross):

$$R_{gross} = \sum_{i=1}^{n} p_i \times K_i$$

The following are included in the probability of contact p:

- frequency of visits per week
- proportion of visitors who make contact with an advertising medium

Factors influencing the probability of contact with DOOH

Number of contacts with an advertising medium (gross):

$$R_{gross} = \sum_{i=1}^{n} p_i \times K_i$$

The number of contact opportunities K ...

- how many times do the visitors pass by?
- duration of the campaign in days

Adaptation of the classic reach formulas on DOOH at the level of the advertising medium

Number of people with at least one contact with an advertising medium (net reach):

$$R_{AM_{net}} = \sum_{i=1}^{n} (1-(1-p_{AM\ related_i})^{Days})$$

Gross contacts:

$$R_{AM_{gross}} = \sum_{i=1}^{n} p_{AM_{related\ i}} \times Daily\ depot_i \times Days$$

$p_{AM_{related}}$	Probability of at least one contact with an advertising medium (AM) on the day
Daily depot $_i$	Number of visits per day * number of contacts per visit
Days	Duration of the booking in days

Probability of at least one contact with an advertising medium (AM) on the day

Probability (P) of use on an **average** weekday:

$$p_{Day} = \frac{Visits_{week}}{Days_{week}}$$

$Visits_{week}$ → Average number of visits per week

$Days_{week}$ → Weekdays = 7

Probability (P) of contact with an advertising medium (AM)/proportion of noticed AM

$$P_{AM\ passed\ by} = \frac{AM_{passed}}{AM_{total}}$$

AM_{passed} → Number of advertising media (screens) passed

AM_{total} → Number of advertising media (screens) in total

Probability (P) of contact with an advertising medium (AM) **during the visit**

$$p_{AM_{visit}} = 1 - (1 - p_{AM\ passed\ by})^{AM_{total}}$$

Related probability of use and contact with an advertising medium

$$p_{AM_{related}} = p_{Day} \times p_{AM_{visit}}$$

Adaptation of the classic reach formulas on DOOH at the level of the advertisement

Number of people making contact with at least one advertisement (net reach):

$$R_{A_{net}} = \sum_{i=1}^{n} (1 - (1 - p_{A_{related_i}})^{Days})$$

Gross contacts:

$$R_{A_{gross}} = \sum_{i=1}^{n} p_{Arelated_i} \times Daily\ depot_i \times Days$$

$p_{A_{related}}$	Probability of at least one contact with the advertisement (A) on the day
Daily depot $_i$	Number of visits per day * number of contacts per visit
Days	Duration of the booking in days

Correction factor for the level of the advertisement

The time spent passing by determines how likely there will be contact with the advertisement when passing by.

Correction factor for the level of the advertisement:

$$f_{corr_A} = \frac{D}{LD - LA + 1}$$

→ Total duration with regard to advertising medium

→ Loop with at least one second of advertising

The following are taken into account:

- Loop duration LD (or intervals between the advertisement display, for example advertisement plays every three minutes) and length of advertisement LA (assumption: 10 seconds)
- The length of time D spent on the advertising medium is in proportion to a virtual loop duration which remains with a minimum advertisement length of one second.
- If the entire advertisement length is deducted from the loop duration, situations where advertising contact would be excluded would be included in the probability.

Probability of at least one contact with the advertisement (A) on the day

Probability (P) of use on an **average** weekday:

$$p_{Day} = \frac{Visits_{week}}{Days_{week}}$$

→ Average number of visits per week

→ Weekdays = 7

Probability (P) of contact with the advertisement (A) when passing by

$$P_{A_{passed\ by}} = \frac{A_{passed}}{A_{total}} \times f_{corr_A}$$

→ Number of screens passed

→ Correction factor for the level of the advertisement

→ Number of screens in total

Probability (P) of contact with the advertisement (A) **during the visit**

$$p_{A_{visit}} = 1 - (1 - p_{A_{passed\ by}})^{A_{total}}$$

Related probability of use and contact with the advertisement

$$p_{A_{related}} = p_{day} \times p_{A_{visit}}$$