

Week 7 Sample Problem

- 1) A firm places five advertising insertions in a market with a population of four people.

The resulting impressions are shown below, where a '1' represents an opportunity-to-see, and '0' signifies that the individual did not have an opportunity-to-see a particular insertion.

Insertion	Individual			
	A	B	C	D
1	1	1	0	0
2	1	1	1	0
3	1	1	1	0
4	1	0	0	0
5	1	0	0	0

- i) Calculate Reach, Reach%, Impressions, Gross Rating Points and average frequency
- ii) Suppose that only individuals A and B belong to the target population. Find the target audience rating points.
- iii) Calculate effective reach for the whole population in the above example if the effective frequency is 3.

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Solution

i)

$$\text{Reach} = 3$$

$$\text{Reach\%} = \frac{3}{4} = 75\%$$

$$\text{Impressions} = 10$$

$$\text{Gross rating points} = 100 \times (10/4) = 250$$

$$\text{Average frequency} = 10/3 = 3.3$$

ii)

When only A and B belong to target population,

Impressions (#) = 8

Reach (#) = 2

Reach (%) = 100

Ave frequency = $8/2 = 4$.

Therefore TARPS = $100 \times \text{Impressions (\#)} / \text{Population size} = 100 \times 8/2 = 400$.

iii)

If the effective frequency is 3, then only customers A & B are “reached”

So, effective reach = 2

Effective reach % = $2/4 = 50\%$

iv)

For advertising response models, please refer to lecture slides 17-18.