

Week 8 sample problem with solution

In the first week of December 2017, David Jones spent \$80,000 for banner advertising in the home page of the online edition of The Age newspaper, which had 35 million views. David Jones's banner ad was displayed 10% of the time. There was one click for every 100 impressions and 1 in 10 clicks resulted in a purchase at a David Jones' store.

David Jones advertised through TV in the second week of December 2015. By spending \$100,000, David Jones was able to reach one million Australian customers. On average, these customers saw the advertisement 1.5 times. 10,000 of these customers visited David Jones after seeing the TV advertisement. Assume that customers who visited the store after seeing the banner advertisement spend the same amount of money as those who visited after seeing TV advertisement, and also the two study periods (week 1 and 2 of Dec, 2015) are comparable in terms of market environment. Given this scenario,

- i. Which of the two media (online vs. TV) is more cost effective in terms of generating impressions?
- ii. Which of the two media is more cost effective in terms of inducing purchase?

Solution:

Web:

Impressions = $10\% \times 35 \text{ million} = 3.5 \text{ million}$

No. of clicks = 35,000

No. of purchases = 3500

Cost per impression = $80,000 / 3,500,000 = \$0.023$ or 2.3 cents

Cost per click = $80,000 / 35,000 = \$2.3$

Cost per order = $80,000 / 3500 = \$22.85$

TV:

Impressions = reach * frequency = $1,000,000 \times 1.5 = 1,500,000$

Cost per impression = $100,000 / 1,500,000 = 0.067$ or 6.7 cents

Cost per order = $100,000 / 10,000 = \$10$

Web advertisement is cheaper in terms of creating impressions, but TV advertisement is more cost efficient in terms of inducing purchase.