**Task Data Analytics Day 2**

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1. Suppose a company offers three different delivery methods for their products: standard delivery, express delivery, and same-day delivery. 60% of customers choose standard delivery, 30% choose express delivery, and 10% choose same-day delivery. The delivery success rates are 95% for standard delivery, 90% for express delivery, and 85% for same-day delivery. If a customer’s delivery fails, what is the probability that they chose express delivery?

Jawab:

Peluang memilih express delivery jika fails:

**P (E|F) = P (F|E) \* P(E)/P(F) = 10% \* 30%/7.5% = 40%**

P(F|E) = 10% (Peluang memilih express dan fails)

P(E) = 30%

Peluang express fails = 3%

Peluang standard fails = 60\*5 = 3%

Peluang same day fails = 10\*15 = 1,5%

P (F) = Customer deliver fails = 3 + 3 +1.5 = 7.5%

1. If a medical test is 95% accurate in detecting a disease and 1% of the population has the disease. Calculate the probability of having the disease given a positive test result!

Jawab:

P(A|B) = P(B|A) \* P(A) / P(B) = 0,95 \* 1/ 5,9 = 0,161 = 16,1%

P(B) = sakit positif + sakit negative = 9,5 + 49,5 = 59 =5,9%

Misal:

Terdapat 1000 orang dalam 1 populasi.

Probability sakit = 1% = 10 orang

Probability sehat = 99% = 990 orang

Sakit negative = 990 \* 5% = 49,5 orang = 4,95%

Sakit positif = 10 \* 95% = 9,5 orang = 0.95%