S - success rate (we dont know)

X - number of positive reviews

$X \sim Bi (n, p)$

number of reviews (↗ arrow)

Same as success rate (↗ arrow)

$$P_X(X=x | p) = \binom{n}{x} p^X (1-p)^{n-x}$$

In Amazon review we are not given a success rate bute number of positive reviews $\Rightarrow$

$$P(p | X=x) =$$

Question
   if i flip the coin 10 times
   and   get   7 Heads   what's the
   probability   to   get heard?

$$P(7|p) = \binom{10}{7} p^7 (1-p)^3$$

$$P(p) = ?$$

$$P(p|x) = \frac{P(p,x)}{P(x)} = \frac{P(x|p) \cdot P(p)}{P(x)}$$