Let D^t_j be the random variable indicates the number of group type j in t periods.

$P(D_{i}^{T-t} \geq x_i)$ is the probability that the demand of group type i
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$$d^t(i,j) = \underbrace{i + (j - i - \delta)P(D^{T-t}_{j-i-\delta} \geq x_{j-i-\delta} + 1)}_{\text{acceptance}} - \underbrace{jP(D^{T-t}_{j} \geq x_j)}_{\text{rejection}}.$$

$P(D_i^{T-t} \geq X_i)$ is the probability that the demand of group type i in $(T-t)$ periods is no less than X_i.

D_j^t is a random variable indicating the number of group type j in t periods.

$$d^t(i,\hat{i}) = \underbrace{i + (\hat{i} - i - \delta)P(D^{T-t}_{\hat{i}-i-\delta} \geq X_{\hat{i}-i-\delta} + 1)}_{\text{acceptance}} - \underbrace{\hat{i}P(D^{T-t}_{\hat{i}} \geq X_{\hat{i}})}_{\text{rejection}}$$