$$\alpha_{1} = P(Z_{1})P(X_{1}|Z_{1})$$

$$\alpha_{1}P(Z_{2}|Z_{1})$$

$$\alpha_{1}P(Z_{2}|Z_{1})$$

$$\alpha_{1}P(Z_{2}|Z_{1})P(X_{2}|Z_{2})$$

$$\alpha_{1}P(Z_{2}|Z_{1})P(X_{2}|Z_{2})$$

$$\alpha_{1}P(Z_{2}|Z_{1})P(X_{2}|Z_{2})$$

$$\alpha_{1}P(Z_{2}|Z_{1})P(X_{2}|Z_{2})$$

$$\alpha_2 = \sum_s [\alpha_1(s) P(Z_2|s)] P(X_2|Z_2)$$