Definitions:

- $\mathcal{A}$: the set of n alternatives $\mathcal{A} = \{a_1, a_2, \ldots, a_n\} \quad (a_i,\ i = 1, 2, \ldots, n)$
- $\mathcal{F}$: the set of m criteria $\mathcal{F} = \{f_1, f_2, \ldots, f_m\} \quad (f_j,\ j = 1, 2, \ldots, m)$
- $\mathcal{R}$: the set of l clusters $\mathcal{R} = \{r_1, r_2, \ldots, r_l\} \quad (r_k,\ k = 1, 2, \ldots, l)$

Decision variables:

- $c_{ik} = \begin{cases} 1 & \text{if } a_i \in r_k \\ 0 & \text{otherwise} \end{cases}, \quad c_{ik} \in \{0, 1\}$

Equations:

$$\begin{aligned} \max \quad & objective\_function \\ s.t \quad & \\ \phi(a_i) &= \phi^+(a_i) - \phi^-(a_i) \text{ (netflow)} \\ \phi^+(a_i) &= \frac{1}{n-1} \sum_{i \neq j} \sum_k w_k \beta_{ijk} \\ \beta_{ijk} &< \frac{f_k(a_i) - f_k(a_j)}{M} + 1 \\ \beta_{ijk} &> \frac{f_k(a_i) - f_k(a_j)}{M} - 1 \\ \beta_{ijk} &\in \{0, 1\}, \end{aligned}$$

Notes:

- $\beta_{ijk} = \begin{cases} 1 & \text{if } f_k(a_i) > f_k(a_j) \\ 0 & otherwise \end{cases}, \quad \beta_{ijk} \in \{0, 1\}$