Nonlinear instances format

!--------------------------------General data --------------------------------;

!Periods number;

T ~

!Number of prices (number of prices for each channel/period);

$|\Omega_{mt}| = 15$ ~

- Ω_{mt} is the discrete set of prices in channel m and period t.

!Channels; (o: online website, b: brick and mortar, m: mobile application, c: catalog, sm: social media)

set of channels M ~

!--------------------------------Logistics data --------------------------------;

!Used capacity; (vector of T values)

1,..., 1 ~

- Normalized to one since capacity constraints are given by $X_t \leq b_t$.

!Capacity per period;

$b_1,...,b_T$ ~

!Production costs;

$c_1,...,c_T$ ~

!Holding costs;

$h_1,...,h_T$ ~

!Setup costs;

$a_1,...,a_T$ ~

!Big M;

S ~ (Available production capacity for all the horizon)

!--------------------------------Market data --------------------------------;

!Market length per period;

$\tau_1, ...,\tau_T$ ~

!Minimum presence per channel;

$\eta^{ch_1},..., \eta^{ch_{|M|}}$ ~

!Pmti; ($|M|.T.|\Omega_{mt}|$ matrix)

Example with M = {o,b}, T = 3 and $|\Omega_{mt}|$ = 5:

m = o

$\quad t = 1: P_{o11}, P_{o12}, P_{o13}, P_{o14}, P_{o15}$

$t = 2: P_{o21}, P_{o22}, P_{o23}, P_{o24}, P_{o25}$

$t = 3: P_{o31}, P_{o32}, P_{o33}, P_{o34}, P_{o35}$

m = b

$t = 1: P_{b11}, P_{b12}, P_{b13}, P_{b14}, P_{b15}$

$t = 2: P_{b21}, P_{b22}, P_{b23}, P_{b24}, P_{b25}$

$t = 3: P_{b31}, P_{b32}, P_{b33}, P_{b34}, P_{b35}$

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!Demand parameters (A); (|M|.T matrix)

Example with M = {o,b} and T = 3:

$m = o$: $\alpha_{o1}, \alpha_{o2}, \alpha_{o3}, \alpha_{o4}, \alpha_{o5}$

$m = b$: $\alpha_{b1}, \alpha_{b2}, \alpha_{b3}, \alpha_{b4}, \alpha_{b5}$

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!Demand parameters (B); (|M|.T matrix)

Example with M = {o,b} and T = 3:

$m = o$: $\beta_{o1}, \beta_{o2}, \beta_{o3}, \beta_{o4}, \beta_{o5}$

$m = b$: $\beta_{b1}, \beta_{b2}, \beta_{b3}, \beta_{b4}, \beta_{b5}$

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