We develop a solution approach to the centralized pricing problem of a nested attraction model with a multi-stage tree structure. We identify conditions under which the optimal solution can be uniquely determined and characterize the optimal solution as a fixed-point of a single variable. In the special case of a multi-stage nested logit model, we show the impact of asymmetry in price sensitivity and adjustment index (also known as the dissimilarity index) and we derive a closed-form solution when the tree structure is symmetric. We show that the equal mark-up property which holds for the single-stage nested attraction models is not valid in the multi-stage nested choice structure even when price sensitivities are the same for all products.

Joint work with Hongmin Li (ASU)

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