Pricing optimization for maximizing profitability over a multi−period of time

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This work addresses a pricing optimization problem of the company that supplies a variety of products to a client company over a multi−period of time. At the beginning of the periods except the first one, the supplier is allowed to change the prices and quantities of products to a certain extent. To extend the transaction, the amount of due of the customer at a period is discounted compared to the one at the previous period. In addition, the total profit of a customer should be guaranteed over the planning time horizon. In other words, pricing and production decisions of the supply offer the benefits from the transaction at a period to both the companies. We present a mixed integer nonlinear programming model to address the problem. The proposed model produces solutions with higher profits than the case in which the selling prices and quantities are fixed at each period. The proposed model is expected to motivate the supply company to adjust the selling prices and quantities.