Optimal Service Hours with Special Offers

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Abstract. In managing service provider businesses, it is important to decentralize consumers at peak time and increase sales not at peak time as well. Shy and Stanbacka[5] have dealt with this problem to explore optimal service hours under a specific ideal time distribution, and discussed the existence of optimal opening and closing times. In the actual environments, however, service providers strategically introduce a wide variety of special offers such as discounted price to collect more consumers.

In this study, we deal with optimal service hours with a special offer of price discount immediately after the opening time and just before the closing time with the view to attracting extra consumers whose ideal and convenient service times are before the opening time and after the closing time. Under the ideal service time distribution by Shy and Stanbacka[5], the provider's profit is first formulated as an objective function to be maximized and then clarified is the condition under which the service provider can earn more profit by special offers than without special offers. An optimal business hours is also explored to clarify the conditions where there exist optimal opening and closing times. Numerical examples are also presented to illustrate the proposed model formulation.