INTISARI

Pada industri restoran, *customer demand* semakin meningkat tetapi jumlah restoran juga mengalami kenaikan. Pihak restoran membutuhkan strategi untuk bisa bertahan dan menaikkan *revenue* yang diterima. Salah satunya dengan menggunakan *strategic levers* yaitu mengontrol *price* dan *meal duration*. *Reference price* akan menggantikan kata *price* yang biasa digunakan. Penelitian ini akan membangun model matematis untuk mendapatkan nilai *optimal reference price* dan *optimal meal duration* pada periode *off-peak* dan *peak* untuk mencapai *optimal revenue* yang diterima oleh restoran.

Awalnya dilakukan uji ANOVA dan uji *post hoc* untuk menentukan periode *off-peak* dan *peak*. Model matematis dibangun dengan menggunakan analisis regresi dan dipisahkan antara periode *off-peak* dan *peak*. Model yang dibangun meliputi hubungan antara variabel *reference price* terhadap *demand*, *party size* terhadap *meal duration*, dan *party size* terhadap *reference price*. Validasi dilakukan terhadap model matematis yang telah dibangun. Fungsi *revenue* dibangun dengan cara mengalikan fungsi *demand* dengan *price*. Fungsi *meal duration* dan fungsi *reference price* digabungkan sehingga akan mendapatkan fungsi *meal duration* dalam bentuk *reference price*.

Hasil yang didapatkan yaitu yang masuk ke dalam periode *off-peak* ialah hari Senin-Kamis (11:00-20:00; 22:00-23:00) dan Jumat-Minggu (11:00) sedangkan ke dalam periode *peak* hari Senin-Kamis (21:00) dan Jumat-Minggu (12:00-23:00). Dilakukan turunan pertama terhadap fungsi *revenue* sehingga didapatkan *optimal reference price*. Nilai *optimal reference price* kemudian disubstitusikan ke dalam fungsi *meal duration* dalam bentuk *reference price* sehingga akan didapatkan *optimal meal duration*. Nilai *optimal reference price* dan *optimal meal duration* dapat memberikan peningkatan terhadap *revenue off-peak* sebesar 49% dan *revenue peak* sebesar 25%.

Kata kunci: *restaurant revenue management*, model matematis, *reference price*, *meal duration*

ABSTRACT

In the restaurant industry, customer demand is increasing but the number of restaurants has also increased. The restaurant needs a strategy to survive and raise the revenue received. One of the strategy is by using strategic levers which controlling reference price and meal duration. Reference price will replace the word price that usually used. This research will develop mathematical models to obtain optimal reference price and optimal meal duration in off-peak and peak periods to increase revenue received by restaurant.

Initially ANOVA test and post hoc test were performed to determine the off-peak and peak periods. Mathematical models are developed separately using regression analysis for off-peak and peak periods. The mathematical model includes the relationship between reference price to demand, party size to meal duration, and party size to reference price. Mathematical models are validated. The revenue function is constructed by multiplying the demand function with the price. The meal duration function and reference price function are combined so that it will get the meal duration function in the form of reference price.

The results obtained that the off-peak period are Monday-Thursday (11:00-20:00; 22:00-23:00) and Friday-Sunday (11:00) while the peak period Monday-Thursday (21:00) and Friday-Sunday (12:00-23:00). An optimal reference price can be obtained by first derivative of the revenue function. The optimal reference price is used in the meal duration function in the form of reference price hence the optimal meal duration obtained. Optimal reference price and optimal meal duration can provide an increase of 49% off-peak revenue and peak revenue by 25%.

Keywords: restaurant revenue management, mathematical model, reference price, meal duration