

Demand Estimation for the San Francisco Bread Company

Consider the hypothetical example of the San Francisco Bread Company, a San Francisco-based chain of bakery/cafes. San Francisco Bread Company has initiated an empirical estimation of customer traffic at 30 regional locations to help the firm formulate pricing and promotional plans for the coming year. Annual operating data for the 30 outlets appear in the attached Table 1.

	A	B	C	D	E	F
2	Market	Demand (Q)	Price (P)	Competitor Price (P_x)	Advertising (Ad)	Income (I)
3	1	596,611	7.62	6.54	200,259	54,880
4	2	596,453	7.29	5.01	204,559	51,755
5	3	599,201	6.66	5.96	206,647	52,955
6	4	572,258	8.01	5.30	207,025	54,391
7	5	558,142	7.53	6.16	207,422	48,491
8	6	627,973	6.51	7.56	216,224	51,219
9	7	593,024	6.20	7.15	217,954	48,685
10	8	565,004	7.28	6.97	220,139	47,219
11	9	596,254	5.95	5.52	220,215	49,775
12	10	652,880	6.42	6.27	220,728	54,932
13	11	596,784	5.94	5.66	226,603	48,092
14	12	657,468	6.47	7.68	228,620	54,929
15	13	519,866	6.99	5.10	230,241	46,057
16	14	612,941	7.72	5.38	232,777	55,239
17	15	621,707	6.46	6.20	237,300	53,976
18	16	597,215	7.31	7.43	238,765	49,576
19	17	617,427	7.36	5.28	241,957	55,454
20	18	572,320	6.19	6.12	251,317	48,480
21	19	602,400	7.95	6.38	254,393	53,249
22	20	575,004	6.34	5.67	255,699	49,696
23	21	667,581	5.54	7.08	262,270	52,600
24	22	569,880	7.89	5.10	275,588	50,472
25	23	644,684	6.76	7.22	277,667	53,409
26	24	605,468	6.39	5.21	277,816	52,660
27	25	599,213	6.42	6.00	279,031	50,464
28	26	610,735	6.82	6.97	279,934	49,525
29	27	603,830	7.10	5.30	287,921	49,489
30	28	617,803	7.77	6.96	289,358	49,375
31	29	529,009	8.07	5.76	294,787	48,254
32	30	573,211	6.91	5.96	296,246	46,017
33						
34	Average	598,412	6.93	6.16	244,649	51,044

The following regression equation was fit to these data:

$$Q = b_0 + b_1P + b_2P_x + b_3Ad + b_4I$$

Where: Q is the number of meals served,

P is the average price per meal (customer ticket amount, in dollars),

P_x is the average price charged by competitors (in dollars),

Ad is the local advertising budget for each outlet (in dollars),

I is the average income per household in each outlet's service area,

The subscript indicates the regional market ($i = 1, \dots, 30$) from which the observation was taken. Estimate the demand and answer the following questions:

- A. Describe the economic meaning for each individual independent variable included in the San Francisco demand equation. Interpret the coefficient of determination (R^2) for the San Francisco Bread Company demand equation.
- B. Should this company try to target high income customers or families? Explain.
- C. How concerned should this company be about price discounts by its leading competitor? Explain.
- D. How effective do you think advertising is for this company?
- E. Should this company consider discounting its price in order to gain market share at the expense of its competitors? Explain.
- F. Estimate the demand using log-linear demand equation. What are the estimated elasticities? Will the estimated elasticities change significantly from those based on linear demand equation?

Your assignment must follow these formatting requirements:

- ❖ Be typed, double spaced, using Times New Roman font (size 12), with one-inch margins on all sides; citations and references must follow APA or school-specific format.
- ❖ Include a cover page containing the title of the assignment, the student's name, the professor's name, the course title, and the date. The cover page and the reference page are not included in the required assignment page length.