PDF Analysis

The goal of this study was to determine the key factor the affects people's consumption of ice cream over the course of a year. The data was collected by examining ice cream sales in 4 week intervals over 3 years for a total of 30 observations, the data was also collected from the same ice cream shop for all 30 of the observations. My r value was 0.776, which shows a moderate to strong relationship between the two variables. My r^2 was 0.602 and my req. EQ was Ice Cream Consumed= 0.2069+ 0.003107(Temp). The sample was obtained through a random process of customers. Since these observations were made on the whole store's sales and not specific customers, only people who came into the shop were studied. The population of interest is all ice cream shops in america, however the sample size is only one ice cream shop in America. This means that it is virtually impossible to upscale the results to a wider range of shops in the population. There are few biases that while were taken into account, were not controlled for to completely minimize their effect. One bias was the pricing, as price could influence a decision to buy a product. While the price of the ice cream was recorded in each observation, it wasn't set at a constant value, therefore influencing the decision to get ice cream or not.

Regression Analysis: Temp versus IC

Method

Rows
unused

Analysis of Variance

Source	DF	Adj SS	Adj MS	F-Value	P-Value
Regression	1	4704.9	4704.9	42.28	0.000
IC	1	4704.9	4704.9	42.28	0.000
Error	28	3115.8	111.3		
Lack-of-Fit	26	2745.8	105.6	0.57	0.807
Pure Error	2	370.0	185.0		
Total	29	7820.7			

Model Summary

S	R-sq	R-sq(adj)	R-sq(pred)
10.5489	60.16%	58.74%	53.42%

Coefficients

Term	Coef	SE Coef	T-Value	P-Value	VIF
Constant	-20.5	10.9	-1.88	0.070	
IC	193.6	29.8	6.50	0.000	1.00

Regression Equation

Temp

-20.5 + 193.6 IC

Fits and Diagnostics for Unusual Observations

Obs	Temp	Fit	Resid	Std Resid
31	71	85.00	-14.61	-1.68

X Unusual X

Descriptive Statistics: IC, Price, Income, Temp

Statistics

Variable	N	N*	Mean	SE Mean	StDev	Minimum	Q1	Median	Q3	Maximum
IC	30	1	0.3594	0.0120	0.0658	0.2560	0.3085	0.3515	0.3962	0.5480

Price	30	1	0.27530	0.00152	0.00834	0.26000	0.26775	0.27700	0.28200	0.29200
Income	30	1	84.60	1.14	6.25	76.00	79.00	83.50	90.25	96.00
Temp	30	1	49.10	3.00	16.42	24.00	32.00	49.50	64.25	72.00

Date	IC	Price	Income	Temp	Year
1	0.386	0.27	78	41	1
2	0.374	0.282	79	56	1
3	0.393	0.277	81	63	1
4	0.425	0.28	80	68	1
5	0.406	0.272	76	69	1
6	0.344	0.262	78	65	1
7	0.327	0.275	82	61	1
8	0.288	0.267	79	47	1
9	0.269	0.265	76	32	1
10	0.256	0.277	79	24	1
11	0.286	0.282	82	28	2
12	0.298	0.27	85	26	2

13	0.329	0.272	86	32	2
14	0.318	0.287	83	40	2
15	0.381	0.277	84	55	2
16	0.381	0.287	82	63	2
17	0.47	0.28	80	72	2
18	0.443	0.277	78	72	2
19	0.386	0.277	84	67	2
20	0.342	0.277	86	60	2
21	0.319	0.292	85	44	2
22	0.307	0.287	87	40	2
23	0.284	0.277	94	32	2
24	0.326	0.285	92	27	3
25	0.309	0.282	95	28	3
26	0.359	0.265	96	33	3
27	0.376	0.265	94	41	3
28	0.416	0.265	96	52	3
29	0.437	0.268	91	64	3
30	0.548	0.26	90	71	3