

PGDM (RM) (2013-15)

RETAIL ECONOMICS

Subject Code: RM-506

Trimester-~~V~~ End-Term Examination: December 2014

Time allowed: 2 Hrs 30 Min

Max Marks: 50

Roll No:

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. For rough work, please use your answer sheet.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5(Short Questions)	5 Marks each	3*5=15
B	2 out of 3(Long Questions)	10 Marks each	2*10=20
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

Section A

- Q1. Organized Retail can be an engine of growth of the economy, Comment.
- Q2. Compare the Demand Function for Retailers with the Conventional demand Function.
- Q3. Retailers that are able to remove themselves from price competition **by** differentiating themselves in some other way will achieve higher profits than those that fail to do this? Explain briefly why you agree/disagree with the statement?
- Q4. Describe different types of distribution or transaction costs? What is their importance for a consumer and a retailer?
- Q5. Explain the Cost Function in retailing $C=C(v, Q, D)$? What role do consumers play in the retail cost function?

Section B

- Q1. What are the three broad sources of economies of scale in retailing? **How do** these economies of scale affect cost of producing output?
- Q2. Ofer (1973) analyzed Israeli retail trade and found considerable economies of scale in retailing. Ofer used the following (CD) production function $Q=A L^{\alpha} K^{\beta}$. Explain (a) the assumptions and properties of this function, (b) transform the CD function into an estimable linear regression model.

Q3. Explain one qualitative and one quantitative technique of forecasting Retailers demand?

Section C

Case study

Selecting sites for La Quinta Inns

La Quinta motor Inns is a moderately priced chain of motor Inns located across the United States. Its market is the frequent Business Traveler. The chain recently launched a campaign to increase market share by building new Inns. The management of the chain is aware of the difficulty in choosing locations for new motels. Moreover, making decisions without adequate information often results in poor decisions. Consequently the chains management acquired data on 100 randomly selected Inns belonging to La Quinta. The objective was to predict which sites were likely to be profitable. To measure profitability La Quinta used operating margins which is the ratio of the sum of profit, depreciation and interest expenses divided by total revenue. (Although occupancy is often used as a measure of a motels success, the company statistician concluded that occupancy was too unstable, especially during economic turbulence.) The higher the operating margin the greater the success of the Inn. La Quinta defines profitable Inns as those with an operating margin in excess of 50% and unprofitable inns with margins of less than 30%. After a discussion with number of experienced managers, La Quinta decided to select one or two independent variables from each of the categories: competition, market awareness, demand generators, demographics, and physical. To measure the degree of competition, they determined the total number of motel and hotel rooms within 3 miles of each La Quinta Inn. Market awareness was measured by the number of miles to the closest competing motel. Two variables that represent sources of customers were chosen. The amount of office space and college and university enrollment in the surrounding community are demand generators. Both of these are measures of economic activity. A demographic variable that describes the community is the median household income. Finally, as a measure of the physical qualities of the location, La Quinta chose the distance to the downtown core. These data are stored using the following format:

Column 1: y = operating margin, in percent

Column 2: x_1 = total number of hotel and motel rooms within 3 miles of La Quinta Inn

Column 3: x_2 = number of mile to closest competition

Column 4: x_3 = office space in thousands of square feet in surrounding community

Column 5: x_4 = college and university enrollment (in thousands) in nearby university and/or college

Column 6: x_5 = median household income (in \$thousands) in surrounding community

Column 7: x_6 = distance (in miles) to the downtown core

Results of regression analysis of these data are given below.

Margin	Number	Nearest	Off Space	Enrollment	Income	Distance
55.5	3203	4.2	549	8	37	2.7
33.8	2810	2.8	496	17.5	35	14.4
49.0	2890	2.4	254	20	35	2.6
...
40.0	3397	1.6	855	19.5	32	3.1
39.8	3823	3.6	202	17	38	4.8
35.2	3251	1.7	275	13	35	4.3

Excel Summary Output

	A	B	C	D	E	F
1	SUMMARY OUTPUT					
2						
3	<i>Regression Statistics</i>					
4	Multiple R	0.7246				
5	R Square	0.5251				
6	Adjusted R Square	0.4944				
7	Standard Error	5.51				
8	Observations	100				
9						
10	ANOVA					
11		<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
12	Regression	6	3123.8	520.64	17.14	3.03E-13
13	Residual	93	2825.6	30.38		
14	Total	99	5949.5			
15						
16		<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	
17	Intercept	38.14	6.99	5.45	4.04E-07	
18	Number	-0.0076	0.0013	-6.07	2.77E-08	
19	Nearest	1.65	0.63	2.60	0.0108	
20	Office Space	0.020	0.0034	5.80	9.24E-08	
21	Enrollment	0.21	0.13	1.59	0.1159	
22	Income	0.41	0.14	2.96	0.0039	
23	Distance	-0.23	0.18	-1.26	0.2107	

Questions: (Case Study)

a. Write down the estimated regression equation from the results of analysis.

b. Explain the following:

i) All regression coefficients and highlight their statistical significance

ii) Interpret R^2 and its significance