

Designing Experimental Classes in College Hotel Management Course: Hedonic Regression Analysis

Dr. Gaolu Zou^{1*}

¹School of Tourism, Culture and Industries, Chengdu University, Chengdu, China

*Corresponding Author

Dr. Gaolu Zou

School of Tourism, Culture and Industries, Chengdu University, Chengdu, China

Article History

Received: 03.01.2022

Accepted: 08.02.2022

Published: 11.02.2022

Abstract: The experimental classes in Hotel Management for university tourism management majors can help students understand and master the fundamental theories and methods of hotel management. Taking hotel prices in Chengdu, China, as an example, this paper designs a course experiment on the impact of hotel star ratings and distance from CBD on prices. Gains are made in the experiments in Hotel Management course teaching. Students have mastered the use of built-in regression programs in Excel and hedonic price models in hotel management analysis. In the experiment, students found that an increase in hotel star ratings will increase hotel prices. With the rise in the distance from the CBD, the price will decrease. These are in line with theoretical expectations. These findings aroused students' strong interest in learning hotel management courses.

Keywords: College; course; hotel management; feature; hedonic; price; elasticity.

Copyright © 2022 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (CC BY-NC 4.0) which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

1. INTRODUCTION

The course Hotel Management is a compulsory course for university tourism management majors. To deepen students' understanding of Hotel Management and combine theoretical knowledge with practical applications, we set up experimental classes of some hours in the Hotel Management course. Hotel rental price is the core of hotel management. Many hedonic characteristic factors affect hotel prices, such as hotel ratings, location, decoration, and environmental quality. Therefore, the purpose of the experiment is to help students understand and master the basic theories, methods, and skills of hotel management and use the multivariate hedonic price model to analyze the impact of some features on hotel prices.

The purpose of this article is to explain how to allocate hours to conduct hotel price management

experiments in university hotel management courses. Taking hotels in Chengdu, China, as an example, using the hedonic price model and excel's built-in multiple regression program, the paper analyzed the impact of hotel levels and location on hotel prices.

2. Important Aspects

2.1. Experimental Project and Class Hours

Experimental project: An Analysis of the Impact of Hotel Stars and Location on Hotel Prices In Chengdu Using the Hedonic Price Model. The experiment takes 8 hours, accounting for 16.7% of the total course hours (48 hours).

2.2. Experimental Purpose and Requirements

The purpose of the experiment is to help students understand and master the fundamental theories, methods, and skills of Hotel Management,

Citation: Dr. Gaolu Zou (2022). Designing Experimental Classes in College Hotel Management Course: Hedonic Regression Analysis. *Glob Acad J Humanit Soc Sci*; Vol-4, Iss-1 pp- 15-18.

use hedonic pricing models to analyze the impact of various features on hotel prices.

Experimental requirements: Students need to learn the process methods and collecting, sorting, and analyzing data. Students must be familiar with the production of excel data tables and use excel software to perform regression analysis. Each student must write and submit an experiment report. Students are required to cultivate scientific and rigorous analytical thinking and the ability to solve practical problems. The experiment is not limited to the 8-hour in-class schedule. It requires students to make full use of extracurricular time to collect hotel data and learn related methods.

2.3. Laboratory Conditions

Computers and data labs with multimedia equipment are required. Each student uses a computer installed with Microsoft Office suite and can access the Internet.

3. Introduction to the Experimental Method

The experiment uses the hedonic feature price multiple regression model [1, 2, 4, 5]:

$$\log(P) = \alpha + \beta_1 STAR + \beta_2 \log(DISTAN) \dots (1)$$

Where:

P: Average open price of the ordinary standard room (RMB yuan per night).

STAR: Dummy variable of hotel rating, 2-star is assigned to 2, 3-star is assigned to 3, 4-star is assigned to 4, and 5-star is assigned to 5. Higher star ratings will increase hotel prices. Hence, the sign of the estimated coefficient β_1 is expected to be positive. To analyze the impact of dummy variables on prices in the semi-logarithmic model, we need to calculate the compound growth rate (%) of prices *P* [3]:

$$P = (e^{\beta_1} - 1) \times 100/100 \dots \dots \dots (2)$$

DIST: The distance from the CBD (meters) represents the location of a hotel. Longer distances should have a negative impact on hotel prices. Thus, the estimated coefficient β_2 is expected to have a negative sign. Log represents the natural logarithm. Therefore, β_2 is the average elasticity of the hotel price relative to the distance from the CBD.

4. Experimental Procedures

1. Defining variables: The experiment defines three variables *P*, *STAR*, *DIST*. Refer to Introduction to experimental methods.
2. Collecting, organizing, and analyzing information and data. All data comes from Sogou Map-Hotel-Chengdu Online Database [6].
3. Establishing a standard excel data calculation table (Table 1).

Table 1: Data for Calculation in Excel

	Dependent variable	Explanatory variable		logarithmic transformation	
Hotels	<i>P</i> (RMB yuan)	<i>STAR</i>	<i>DIST</i>	$\log(P)$	$\log(DIST)$
Pudding Hotel	123	2	3000	4.812	8.006
Chengdu Gubei Holiday Hotel Apartment	200	2	2000	5.298	7.601
Holiday Inn Chengdu Rongcheng	129	2	1400	4.860	7.244
Yijia Chain Hotels in Chengdu	200	2	2200	5.298	7.696
Chengdu Prince Lai Boutique Hotel Apartment	268	2	2000	5.591	7.601
Bolt Business Hotels	229	3	2900	5.434	7.972
Oak Grove Hotel	278	3	2300	5.628	7.741
Chengdu Peninsula Hotel	198	3	1700	5.288	7.438
Chengdu Qiyuan Hotel	248	3	2400	5.513	7.783
City Inn Chengdu Kuanzhai Alley	205	3	1400	5.323	7.244
Dacheng Hotel	288	3	809	5.663	6.696
Haoge Business Hotel	358	4	2600	5.881	7.863
Hejiang Ting Hanwen Hotel	420	4	2300	6.040	7.741
Jiahao Yuemei Hotel	370	4	616	5.914	6.423
Jingchuan Hotel	398	4	2400	5.986	7.783
Oasis Hotel	299	4	1300	5.700	7.170
Minshan Anyi Hotel	350	4	1300	5.858	7.170
Sichuan Minshan Hotel	468	5	985	6.148	6.893
Sheraton Tianfu Lido Hotel	688	5	816	6.534	6.704
Crowne Plaza Hotel	710	5	1200	6.565	7.090
Chengdu Mingyue Hotel	350	5	3800	5.858	8.243
California Garden Hotel	330	5	4100	5.799	8.319

4. Calling the multiple regression program from the built-in program of excel. The route is file, option, add-in, analysis tool library, and OK. Click on regression in Data Analysis in the upper right corner of the Excel toolbar.
5. The output of multiple regression results (Table 2).

Table 2: Output for Hedonic Regressions

SUMMARY OUTPUT				
dependent variable: log(P)				
	Coefficients	se	t-Stat	P-value
Intercept	5.8663	0.7775	7.5453	0.0000
log(STAR)	0.3342	0.0457	7.3145	0.0000
log(DIST)	-0.1812	0.0985	-1.8392	0.0816
R-Square	0.7657			
Adjusted R-Square	0.7410			
se	0.2283			
Number of observations	22			

5. Experiment Report Writing and Report Scoring

5.1 Experiment Report Writing

Write an experimental report of about 2000 words: the most important thing is to explain the estimated coefficients and analyze the economic mechanism.

For example, the coefficient of the estimated variable *STAR*, namely β_1 is 0.3342. The t-statistic is 7.55, indicating that the coefficient is significant at the 5% level. Therefore, $P = (e^{(0.3342)} - 1) \times \frac{100}{100} = 39.7$, which means that in 2020, for every increase of one level of hotel stars in Chengdu, hotel prices will increase by an average of 39.7%. It shows that higher stars increase hotel prices, which is in line with the prediction of hotel management theory.

The estimated coefficient of the location variable *DIST*, β_2 , is -0.1812, and the t-statistic is -1.84, indicating that the coefficient is significant at the 10% level. Thus, in 2020, for every 1% increase in the distance between hotels and the CBD, hotel prices will decrease by 0.18% on average. It shows that the distance from CBD has a negative impact on prices, which is also in line with the expectations of hotel management theory.

The significance of hotel management is that raising a hotel's star and placing a hotel as close as possible to the CBD will increase its profits.

5.2 Experiment Score

Scoring is made based on the experimental report and the participation degree in the experiment. The experimental score accounts for 20% of the total course score. The experimental score structure is as follows:

- Completing the entire experimental process: 40%.

- Submitting a complete experiment report: 10%.
- Correctly interpreting the meaning of the estimated coefficients: 30%.
- Hotel management suggestions: 20%.

6. CONCLUSION

We believe that the experimental classes in Hotel Management for university tourism management majors can help students understand and master the fundamental theories, methods, and skills of hotel management. Therefore, taking hotel prices in Chengdu, China, as an example, this paper designs a course experiment on the impact of hotel star ratings and location on prices, and explains laboratory conditions, experimental methods, and procedures, how to write experimental reports, and how to score experimental reports.

The experimental results are very significant. Most students have mastered the use of the built-in regression program in excel, the application of the hedonic model in hotel management, and data collection and excel datasheet production.

The experiment found that the hotel's star rating increases the hotel price. The distance from the CBD has a negative impact on the price, which is in line with the expectations of hotel management theory. Therefore, the experimental results not only deepen the students' understanding of hotel management theory but also increase their interest in hotel management courses.

REFERENCES

1. Gibbons, S., & Machin, S. (2008). Valuing school quality, better transport, and lower crime: evidence from house prices. *Oxford Review of Economic Policy*, 24(1), 99-119.
2. Halvorsen, R., Henry O. Pollakowski. (1981).

- Choice of functional form for hedonic price equations. *Journal of Urban Economics*, 10(1), 37-49.
3. Halvorsen, R., & Palmquist, R. (1980). The interpretation of dummy variables in semilog equation. *American Economic Review*, 70(3), 474-475.
 4. Kumagai, Y., & Yamada, Y. (2008). Green space relations with residential values in downtown Tokyo - implications for urban biodiversity conservation. *Local Environment*, 13(2), 141-157.
 5. Rosen, S. (1974). Hedonic prices and implicit markets: product differentiation in pure competition. *Journal of Political Economy*, 82(1), 34-55.
 6. Sougou Map. (2021). Hotels - hotels - Chengdu. Retrieved from <http://map.sogou.com/#c=11586343.75,3563000,12&lq=%u9152%u5E97&where=11568468.75,3549218.75,11616531.25,3576781.25,0&page=1,10>