

PRICING MODELS IN A CAPTIVE MARKET: A CASE STUDY OF LCC DORMITORIES

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Abstract: The purpose of this study is to identify the residents' preference among three pricing strategies: a la carte pricing strategy, limited choice pricing strategy, and bundled pricing strategy. The study analyzes the correlation between the year of study of the dormitory residents and the preferred pricing strategy. It uses an online survey for LCC International University students who were enrolled for the 2015-2016 academic year. A fixed choice set analysis is performed to analyze 126 valid responses. The results show that 42.4% of the respondents prefer an a la carte pricing strategy, contrary to the currently limited choice pricing strategy employed by LCC residency halls. Additionally, the study finds out that the residents are more likely to switch their preference from a bundled pricing strategy to an a la carte pricing strategy the higher their year of study is. Resident preferences for pricing strategies can provide dormitory operators with valuable information on establishing best pricing structures.

JEL Classification Number: M31; **DOI:** <http://dx.doi.org/10.12955/cbup.v5.955>

Keywords: Pricing strategy, Accommodation sector, Dormitory, Bundle pricing, Partition pricing, Captive market

Introduction

Price is the primary concern for the majority of people facing the decision of renting a temporary place of residence. According to a study by Repetti et al. (2015), customers prefer bundled pricing strategies in the hospitality industry. A possible explanation for this behavior is the "inferred bundled saving effect" which states that consumers generally believe that bundles involve a discount (Heeler, 2008). However, all-inclusive packages do not always imply a discount. Kaitlyn Wells (2014) states that customers choosing an all-inclusive vacation package may not be any cheaper than a standard version. A study conducted by Gillian Naylor finds the anecdotal evidence that "consumers would rather pay more for an all-inclusive package than deal with separate charges, even if the total bill is less" (2001). This represents a paradox from the standard economic model, which assumes that people behave rationally and selfishly. Yet, the same research concludes that this effect does not apply for repeat guests because they have the knowledge to pick the bundle that fits best their needs and expectations (Naylor, 2001).

This research paper aims to find out if the existent economic models about pricing strategies and customers' choice in the hospitality industry apply in the accommodation sector as well. The logical assumption of the study is that since the accommodation sector is part of the eight branches of the hospitality industry then the theories developed in the hospitality industry should apply in the accommodation sector as well. There are no other known research papers that attempt to answer this question.

Research Questions and Hypothesis

In order to find out if the existent theories about the pricing strategies and customers' preferences in the hospitality industry hold in the accommodation sector as well, the research will focus on the case study of LCC International University dormitories. There are two dormitories located in Klaipeda, Lithuania which accommodate students who study at LCC. These dormitories have a total capacity of 360 beds. Two research questions have been formulated to provide richer insight on the issue:

- RQ1: What pricing strategy (all-inclusive, limited choice, a la carte) is preferred by most of the LCC students?
- RQ2: Is there a correlation between the LCC students' year of study and the pricing strategy preferred?

Consequently, two hypothesis have been concluded after analyzing the existent literature:

- H1: Most of the LCC students will prefer the present limited choice pricing strategy.

- H2: The longer the time a resident lives in the dorm, the more likely s/he is to switch from a bundled fee to a partitioned pricing strategy.

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Literature Review

Lockyer and Roberts (2009) found that the price is an important trigger point in the hospitality industry. Hence, it is critical for both managers and customers to understand the reasoning of pricing strategies in this industry. Repetti et al. (2015) found that hotel consumers prefer bundled pricing over partitioned pricing in a report of 2 to 1, favoring the former. Similar findings are reached by Bambauer and Gierl (2008) in a study about purchasing decisions in commerce. They state that “The overall effect of price partitioning on product evaluation proved to be negative compared to using total prices.” They sum up their results by advising marketers to avoid partitioned prices because the disadvantages of this technique outweigh the advantages. Furthermore, Johnson et al. (1999) conducted a study about the psychological processing of bundled or de-bundled price information. They find out that consumers prefer “to integrate losses, in the form of price information, into a single bundled price.” Again, the outcome is that consumers prefer price bundling over price partitioning.

The reasons why the consumers prefer price bundling over price partitioning are explained by Johnson et al. (1999). His research study proves the existence of heuristics such as mental accounting and framing effects. Mental accounting is defined by Cartright (2014) as “the process of coding categorizing, and evaluating choices and outcomes.” In other words, mental accounting refers to the fact that people assign any sources of spending or income into different accounts for separate purposes. In the context of the hospitality industry, mental accounting is present when a tourist divides the budget for his vacation in separate accounts. Johnson (1999) concludes his study by acknowledging that consumers tend to segregate gains and integrate losses. Consequently, tourists are more likely to book an all-inclusive vacation package and feel one big loss instead of having to deal with a la carte pricing where there is uncertainty about the gains and losses they might encounter during their vacation.

Another reason consumers prefer price bundling over price partitioning is that most of the time, people estimate that the bundle is cheaper than the actual price. A study by Heeler et al. (2007) finds the existence of an “inferred bundle saving effect,” that assumes that generally, consumers believe that bundles involve a discount. Furthermore, the study suggests that the inferred bundle effect is a better theory than mental accounting and framing effects found in the study by Johnson (1999). Inferred bundle saving effect implies that customers have a reference point (anchoring effect), which was not present in the study conducted by Johnson et al. (1999), where “the bundled and unbundled prices were treated as losses regardless of whether inferred bundle discount exists” (Heeler *et al.*, 2007). The study by Heeler et al. (2007), provides further evidence that “the inferred bundle saving effect is real, and is a probable explanation of pre- and post-purchase bundle effects.”

Another study suggests that the complexity of the pricing strategy cannot explain the customer's' evaluation of the offer. Thaler's (1999) theory of “integrated outcomes,” which states that people prefer to segregate gains and integrate losses. For example, a customer buying an all-inclusive vacation package would evaluate the offer more positively if she knows how much money she saves on each service (segregate gains). However, the same customer buying a partitioned vacation package will evaluate the offer less positively if it is too complex (integrate losses).

Price bundling loses its “inferred discounting” effect with repeat customers. A study by Naylor and Frank (2001) found that first time guests prefer to pay more for an all-inclusive package than deal with separate charges, even though they could pay less choosing a partitioned package. Naylor and Frank (2001) explain this paradox that “consumers perceive that there are psychological, or hassle savings with an all-inclusive package that outweigh monetary savings.” The same study, finds that this is not true for repeat customers, because “they have the knowledge to pick the bundle that suits best their needs” (Naylor et al., 2011). This finding is consistent with the “discovered preference” hypothesis that states that over time people make choices that are consistent with the standard economic model.

Cartright (2014) attributes this effect to the “ample opportunity to learn from experience.” Therefore, the price bundling strategy becomes less effective for repeat guests, if the client's initial reference point is lower than the price paid for the all-inclusive package.

Dormitory pricing strategies across countries

In order to acquire a better perspective on pricing strategies in the accommodation sector, the authors analyzed the pricing strategies across various dormitories in different countries. The dormitories are

from the following countries: Lithuania, Latvia, United States of America, Romania and Moldova. The universities were chosen randomly to provide a general impression of pricing strategies in different dormitories. The results are presented in the following table:

Country	Pricing Structure
Latvia	Limited choice. <i>Stockholm School of Economics in Riga, Latvia, has an identical pricing strategy for the dormitories to that employed by LCC. The residents pay one fee per semester in the form of a limited choice fee.</i>
Lithuania	Limited choice. <i>At Vilnius University, Lithuania, the dormitories are charged a fixed fee each month. The fee includes only the rent and the utilities.</i>
Moldova	Limited choice. <i>The Musical College “Stefan Neaga” in Chisinau, Moldova, charges a single payment per year. The residents pay for rent and utilities in one price. However, the fee does not include other expenses such as Wi-Fi, parking, or storage options.</i>
Romania	A la carte fee and limited choice fee. <i>The State University of Pitesti has a partitioned pricing strategy. The dormitory residents pay each month a rent fee and consumption fee based utility fee. However, in Bucharest at SNSPA University, a monthly fixed fee is paid that includes both the rent fee and the utilities.</i>
United States of America	All-inclusive fee. <i>At NYU, the residents pay one all-inclusive fee. The fee includes the rent expenses, the utilities and all the amenities including WiFi and access to gym. Similarly, at Alfred University, NY, the dorms are charged one all-inclusive fee that includes WiFi and gym membership. The fee is charged each semester.</i>

Source: Authors

The majority of dormitories apply an a la carte pricing strategy and a limited choice fee. Only in the United States of America, the dormitory included many amenities all bundled together in an all-inclusive price.

Methodology

To find out what preferences LCC dormitory residents have, it is required to formulate several realistic pricing scenarios. The first questionnaire was pilot tested before administering it to students. With a population size of 309 and 126 responses, the margin of error for the survey is 6.7% on the 95% confidence level ('Sample size calculator', n.d.). The survey had a response rate of 40.8%. When asked to choose the two most valuable amenities that the dormitories have to offer, the respondents picked WiFi (99 responses) and Access to Storage Room (49 responses). The mean value for all options was 34.1 EUR per semester and the median value was 27.5 EUR.

Therefore, the student residents' willingness to pay (WTP) was 30 EUR³ per semester for the amenities most valuable to them.

When asked to choose two amenities they would like to pay in the form of a bundled rate, the respondents picked: laundry tokens (60 responses) and the meal plan at the cafeteria (52 responses). The mean value for all options was 86.5 EUR per semester and the median value was 59.5 EUR. Therefore, the student residents would be willing to pay on average 80 EUR per semester for the extra amenities most valuable to them.

However, the authors observed that 80 EUR per semester for a meal plan and laundry tokens is not a realistic scenario that could be implemented successfully at LCC University because the estimated fee is too low. According to the employees of the LCC cafeteria and the meal plan of LCC Basketball

³ The authors approximated the value of the identified amenities to the average value of the median WTP and mean WTP.

team, a more appropriate figure for the student meal plan would be 161 EUR per semester. As for the washing tokens a value of 14 EUR⁴ per semester is an acceptable figure.

The second questionnaire was constructed based on the values identified in questionnaire one. It presents five fixed choice sets and each choice set includes the following attributes:

- a) Housing Fee: Presented as bundled rate or a partitioned rate
- b) Deposit: Presented as bundled or partitioned to the housing fee.
- c) Amenities: Presented as all-inclusive, choice of two, or a la carte.

Each scenario asked the respondents to assign a rating (definitely not acceptable, somewhat acceptable, definitely acceptable) to each script. A “none” alternative was available in the event the respondent had no opinion on the scenario. The non-residents were given an average value of 370 Euros to consider when completing the survey. The value was established as a median value of the room rates LCC dormitories have. Scenario one presents an all-inclusive fee for the housing rate, no deposit required, and it includes the price values for the amenities identified in questionnaire one. The second scenario is similar to the first scenario, except it presents a bundled deposit fee rather than the bundled housing fee as presented in the first scenario. Scenario three is the least expensive choice because it is formulated on the a la carte pricing strategy. It subtracts the value of the previously included amenities and offers a charge based on usage. The fourth scenario is the scenario currently offered by LCC dormitories and it presents a limited choice fee. Lastly, scenario five is identical to scenario two and it was added as a manipulation check to validate that the respondents were answering the questions and not randomly selecting options. There was no significant difference in the mean scores between these two scenarios, suggesting participants were responding consistently when answering the survey questions.

Empirical Findings

Of those participating in the survey, 33.6% were male and 66.4% were female. The age of the participants fell in the 18-22 years old range with more than 80% of responses. The respondents represented a variety of education stages with 29.6% Prime students⁵ and freshmen, 14.4% sophomores, 16% juniors, and 40% seniors and graduates. Approximately 62% of the respondents were on-campus residents and the remaining 38% were off-campus residents. As a further reliability method Cronbach’s Alpha value is .676, which is an acceptable coefficient.

To address the first research question concerning what pricing strategy is preferred by most of the student dorm residents, respondents were asked to choose their preferred scenario. Table two summarizes the results collected by showing the number and the percentage of the respondents who choose the option “Definitely acceptable” for each of the five scenarios.

These findings are opposite to the results discovered in the hospitality industry. According to the study by Repetti, Roe and Gregory (2015), the customers in the hospitality industry preferred the bundled pricing strategy over the partitioned pricing strategy. Therefore, the results presented in table four reject the first hypothesis of this study, which stated that the residents will prefer the current limited choice pricing strategy.

Table 2: Respondents most preferred pricing strategy, ranked highest to lowest

Pricing strategy	Scenario	N	% of total
Partitioned fee	Scenario 3	53	42.4
Limited choice	Scenario 4	35	28.0
Bundled fee (reliability test)	Scenario 5	26	20.8
Bundled fee	Scenario 2	23	18.4
Bundled fee	Scenario 1	16	12.8

Source: Authors

⁴ The value of a washing token is currently sold at 1.15 EUR.

⁵ Students part of the intensive English program

To address research question two, concerning any correlation between the respondent’s age and their preferred pricing strategy, a Pearson correlation was used. The level of studies (Prime, freshmen, sophomore, junior, senior and Master) was used as a proxy for determining customers’ living experience in the dormitories. Table three presents the correlation between residents’ year of study and their preferred pricing strategy. The first observation is that the Pearson correlation values are close to zero. In table three, all of the identified correlation coefficients are small to insignificant. The reason for such values is that the study was conducted for a population where more than 80% of the respondents were in the 18-22 years old range. This represents a very narrow age category. Therefore, because of limited age demographics, the Pearson correlation is so weak.

Table 3: Correlation between studies and the strategy preferred

		Scenario 1 <i>Bundled fee</i>	Scenario 2 <i>Bundled fee</i>	Scenario 3 <i>Partitioned fee</i>	Scenario 4 <i>Limited choice fee</i>	Scenario 5 <i>Bundled fee</i>
Studies	Pearson Correlation	-.073	-.073	.066	-.104	-.108
	Sig (2-tailed)	.421	.420	.467	.247	.232
	Nr. of observations	125	125	125	125	125

Source: Authors

The second observation is that scenario one and scenario two which represent bundled pricing strategies have negative coefficients. It shows that the more a student is advanced in his study and thus is older, the less likely he is to choose a bundled strategy. This finding is consistent with hypothesis two which states that the longer time a resident lives in the dorm, the more likely he is to switch from bundled fee to a partitioned pricing strategy.

Similarly, scenario three representing an a la carte pricing strategy has a positive coefficient meaning that the more advanced a student is in his studies the more likely he is to choose a partitioned pricing strategy. Therefore, hypothesis two is not rejected. The third observation is that scenario four that represents LCC’s current pricing strategy in the form of a limited choice pricing strategy, got one of the strongest correlation coefficients. The result proves that the more a student has advanced in his studies and thus his age, the more likely he is to dislike the LCC dormitories’ current pricing strategy. This finding is consistent with the “discovered preference hypothesis,” which states that over time customers make better choices, and in this case, with the less costly choice. Furthermore, this observation is consistent with the findings of the study by Naylor and Frank (2001), which states that price bundling loses its “inferred discounting” effect with repeat customers. Lastly, scenario five got a similar score to scenario two, proving that the respondents were not randomly choosing answers.

Further investigation was done for the pricing strategy preferred by the non-residents of LCC residency halls. The results are presented in Table 4.

Table 4: Non-residents preferred pricing strategies

		Scenario 1 <i>Bundled fee</i>	Scenario 2 <i>Bundled fee</i>	Scenario 3 <i>Partitioned fee</i>	Scenario 4 <i>Limited choice fee</i>	Scenario 5 <i>Bundled fee</i>
Residence	Pearson Correlation	-.076	-.064	.163	-.114	-.138
	Sig 2-tailed	.400	.476	.070	.207	.124
	Nr. of observations	125	125	125	125	125

Source: Authors

The results presented in table four are similar to the results presented in table three. The non-residents, however, show stronger preference for the partitioned pricing strategy in scenario three. Moreover, the non-residents have a stronger aversion towards the current pricing strategy offered by LCC dormitories. Therefore, the non-residents are more price-sensitive than the current dorm residents. This finding can be explained that the non-residents have acquired enough knowledge over the years about their own needs and personal consumption and would therefore prefer to pay separately for their expenses than pay an average bundled fee. However, it is unclear if the non-residents do not live in the dormitories because of the limited choice pricing strategy applied, or because of other inconveniences.

Discussion

Rates and fees remain one of the most important trigger points of consumer behavior. This research suggests that the customers in the accommodation sector prefer a partitioned pricing strategy over a limited choice fee or a bundled price. Moreover, the results of this study suggest that the longer the stay of a resident in the dormitory, the higher the probability that he will prefer a partitioned fee. Correspondingly, the shorter the stay of a resident in the dormitory, the higher the probability that he will prefer a bundled fee.

Contrary to the findings in the hospitality industry of the study conducted by Repetti et al. (2015), the customers in the accommodation sector preferred a partitioned fee over a bundled fee or a limited choice fee. This preference is inconsistent with the pricing strategy employed by most dormitories across multiple countries.⁶ One reason why dormitories are charged a limited choice fee could be that the residence halls belonging to a university represent a captive market. Therefore, a dormitory may use a limited choice fee or a semi-bundled fee for increasing its profitability. As noted by Knutson (2011), bundling fees together can serve as an effective tool to increase sales or profit for companies, or in this case - dormitories. However, the practice of bundling services together can represent an advantage for the residents as well. Duke (1994) states that price bundling can serve as a method to attract price-sensitive consumers who “are attracted to purchase more goods and services by bundling independent products”. In the case of residency halls, paying for rent, utilities and Wi-Fi, seems like a good deal for potential residents, because the housing fee includes the independent product – Wi-Fi service. Therefore, both the dormitory managers and the residents have advantages from offering a limited choice fee or a bundled residency fee. The mutual gain of both parties can serve as an explanation for a limited choice fee in the accommodation sector.

The second research question found significant statistical evidence that the longer time a resident lives in the dormitories the more likely he is to prefer a partitioned pricing strategy. This finding is consistent with the proposed hypothesis and does not contradict the conventional literature about the subject. In terms of pricing strategies, this finding suggests that over time people are more likely to choose a partitioned pricing strategy over the limited choice package or the all-inclusive fee. However, this effect should be tested for different brand perceptions. As suggested by Love (2012) the practice of price bundling works well only for low tier brands. Interestingly, dormitory fees are different than the other surcharges evaluated in previous studies (i.e. shipping and handling charges). Dormitory fees include amenities that some consumers may not use or find value in, and yet still pay for them.

While this study provides interesting contributions, there are limitations to the work. The survey attempts to replicate actual consumer behavior purchasing decisions, but it is possible that participants can have different behaviors than those indicated in the responses. This study also exposes additional areas of research. Further, in-depth examination of pricing strategies in other dormitories in Lithuania, and other countries would be useful for modelling consumer behavior in the accommodation sector. Comparing various pricing strategies among privately owned dormitories and publicly owned dormitories is another suggestion for further research.

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⁶ See pricing strategies across countries in Chapter two

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