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THE IMPACT OF ATTRACTIONS DEMAND ON LODGING DEMAND

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ABSTRACT

This three-year study of the relationship between attractions demand and lodging demand indicate that increasing attendance at recreation and entertainment-related attractions is associated with heightened lodging demand. However, it is also clear that the relationship between attractions attendance and lodging demand may vary from destination to destination.

INTRODUCTION

Tourism researchers have long considered lodging only part of a loosely connected tourism system (Mill and Morrison, 1985). Yet, when tracking historic performance and predicting future revenues, lodging industry analysts frequently assume the demand for complementary products to be constant and look to lodging price as a single predictor of lodging demand. Researchers estimate price elasticities of demand for lodging by measuring lodging price and aggregate tax receipts for lodging at the state level (Fujii, Khaled, and Mak, 1985; Bonham, Fujii, Im, and Mak, 1992; Bonham, and Gangnes, 1996; Damonte, Domke-Damonte, & Morse, 1998), or in multiple counties within a single destination (Domke-Damonte & Damonte, 1998). These studies have either found lodging price to have a minimal affect on lodging demand, that is, lodging demand has been found to be largely price inelastic or have found the incidence of lodging taxes to be transferred for the most part to consumers.

But, is it possible that shifts in the price of, and the demand for, complementary services to lodging such as recreational activities are actually not constant and that the demand for these services affects the demand for lodging? Damonte (1993) suggests that lodging demand may be a function of factors apart from the hotel product itself. For example, the demand for lodging at hotel properties in Orlando may be a function of not only the quality of hotel services within the destination, but the quality of attractions within the destination area such as amusement parks, golf courses and theatres. This research will investigate the impact of changes in the demand for entertainment and recreation attractions on lodging demand within the same destinations.

REVIEW OF THE LITERATURE

Tourism destinations are loosely linked clusters of a complex package of services. As Porter suggests (1998, p. 78), "What happens inside companies is important, but clusters reveal that immediate business environments outside companies play a vital role

as well.” Though lodging, food, and recreation revenues are recorded in separate standard industrial codes, they may be purchased as a package or separately from clusters of businesses within the same geographic area. When these services are consumed within the same geographic area, during the same time, the area becomes what is commonly known as a tourist destination.

Damonte (1993) suggested that the demand for, and average daily rates achieved by, a lodging business may be a function of the proximity to the tourism assets in the destination. These assets may be natural, such as in the case of beaches or mountains, or man-made such in the case of recreational facilities and transportation infrastructure. Baum and Haveman (1997) determined that hotels of different sizes and prices located in clusters. In an attempt to link their business to the same tourism resources, multiple lodging providers may even choose to locate in close proximity to each other.

The relationship between lodging occupancy rates and tourism resources has been studied by Potts and Uysal (1992) in Beaufort (includes Hilton Head Island), South Carolina. Researchers found that visitor spending differed across seasons. This finding is logical because it is reasonable to expect demand for traditional beach destinations to drop off during colder months. Therefore in the current study, H_1 will be tested as follows: Lodging demand will differ across seasons of the year.

Domke-Damonte and Damonte (1998) also found seasonality to be a significant factor in the relationship between price and lodging demand in Horry County and Georgetown County, South Carolina. Domke-Damonte and Damonte (1998) also found, though lodging demand was never price elastic during any month of the three-year study, the relationship between price and lodging demand was different not only across seasons but across counties. Individual counties provide unique historical, social, cultural, and political environments in which recreation and tourism may differ markedly in their centrality to the county’s business base. Therefore, it is expected that lodging demand will differ by county. Thus H_2 will be: Lodging demand will differ by county.

The evidence that lodging demand may differ across counties suggests that lodging demand may differ based on factors other than price, such as different levels of demand for complementary services or substitute destinations. Potts and Uysal (1992) suggested that destinations could combat low occupancy rates by developing resources (attractions or activities) that would appeal to tourists during the slower seasons. It would seem intuitive to suggest that increased attraction development would be related to increased demand for lodging. As visitors are faced with multiple opportunities (amusement parks, golf, museums, etc.) they might be more likely, as Potts and Uysal suggest, to plan to spend more time in the destination and thus require more lodging room-nights and a wider variety of visitors may also be drawn to the destination, also increasing lodging demand. Therefore this research will test H_3 : Lodging demand will be positively associated with demand for attractions.

It is also intuitively logical that not all counties rely on their entertainment and recreation attractions to generate lodging demand. For example a county that is the seat of state government might generate much of its overnight lodging demand from the state

legislature. Other counties might have major transportation assets such as an international airport or major industrial park, or might be located adjacent to a major highway, any of which may generate much of demand for lodging. The relationship between the demand for entertainment and recreation and lodging resources may be proportionately greater or less based on the county in which they are located. Therefore the research will test H₄: County location will moderate the relationship between attractions demand and lodging demand.

METHODOLOGY

Ordinary least squares regression (OLS) was run using SPSS on three years of monthly data from 6 counties in South Carolina: Charleston, Dorchester, Georgetown, Horry, Lexington, and Richland. These counties were chosen for three reasons. First, these counties provide diversity in travel motivation, representing both coastal and mid-state areas. Second, they represent adjacent counties within tourism areas assumed to have common tourism assets. For example, Charleston and Dorchester Counties are marketed by the state of South Carolina as *Charleston*. Georgetown and Horry Counties are marketed as *Myrtle Beach and The Grand Strand*, and Lexington and Richland Counties are marketed as *Capital City and Lake Murray Country*. Finally, reliable data, adjusted for county level accommodations taxes, was available for the entire time frame for these counties.

Following from the work of Fujii, Khaled, and Mak (1985), Bonham, Fujii, Im, and Mak (1992), Bonham, and Gangnes (1996), and Domke-Damonte and Damonte (1998), researchers in this study utilized data on accommodations taxes and average daily rates in lodging. This data, along with data on admissions tax revenues and attraction attendance, was provided by the South Carolina Department of Parks, Recreation, and Tourism for the months of December 1992 through November 1995 (South Carolina Lodging Trends 1992-1995; South Carolina Travel Barometer 1993, 2(2) - 1996, 4(3)).

Quantity of Rooms Demanded (QRD), the dependent variable, was developed in two stages. First, the amount of accommodations tax revenues collected monthly by the South Carolina Department of Revenue for each county was divided by .02 (the accommodations tax rate) to derive the total accommodations revenues ($ACCREV_{it}$) for the respective county (i) in the respective month (t). Then $ACCREV_{it}$ was divided by the average daily rate for each county (collected by the South Carolina Department of Parks, Recreation, and Tourism) to provide an estimate of the total number of rooms demanded in the respective county for that month (QRD_{it}).

Admissions (ADMIT) was derived in several stages. South Carolina State Law (South Carolina General Assembly, 1997) provides for a tax on admissions to “places of amusement,” which include golf, amusement parks, live entertainment, aquaria and zoos, night clubs, auto racing, movie theatres, bowling, and collegiate athletic events. Due to the lack of data availability for the number of admissions purchased in each county monthly, number of admissions was estimated in the following manner. First, the admissions tax collections for each county were first divided by .05 to provide total

admissions revenues ($AttRev_{it}$) for the respective county (i) and month (t). Then, admissions attendance figures were used to provide an estimate of the number of admissions tickets purchased in the following manner: (1) attraction attendance figures ($AttNo_{Reg}$) and taxable attractions admissions revenues ($AttTRev_{Reg}$) available quarterly by region (Coastal or Midlands) for the South Carolina Department of Parks, Recreation, and Tourism were divided by three and assigned to each of the months in the respective year and quarter to provide conservative estimates; (2) these monthly figures were divided ($AttNo_{Reg} / AttTRev_{Reg}$) to provide the estimate (ADMIT) of the average price of admissions in the Coastal ($PAtt_{Coastal}$) and Midlands areas ($PAtt_{Midlands}$); and (3) the $AttRev_{it}$ was divided by its associated $PAtt$ -- either $PAtt_{Coastal}$ for the Coastal counties or $PAtt_{Midlands}$ for the Midlands area. $PAtt_{Coastal}$ was used with Charleston, Dorchester, Georgetown and Horry Counties, while $PAtt_{Midlands}$ was used with Lexington and Richland Counties.

County was defined as a categorical variable, with 1 representing Charleston County, 2 representing Dorchester County, 3 representing Georgetown County, 4 representing Horry County, 5 representing Lexington County, and 6 representing Richland County.

Quarter (QTR) was defined in the same manner as SCPRT defines seasonality. The first quarter represents the Winter months (December – February), the second quarter represents the Spring months (March – May), the third quarter represents the Summer months (June – August), and the fourth quarter represents the Fall months (September – November).

Year was also included in the regression equation as a control variable. Intriligator (1978) noted that the inclusion of the time component in a time series analysis enables one to note whether the changes in the dependent variable are a function of changes in supply and/or demand over time. As a result, year 1 refers to December 1992–November 1993, year 2 refers to December 1993 – November 1994, and year 3 refers to December 1994 – November 1995.

RESULTS

Descriptive statistics are presented in Table 1. The regression model itself is significant (Table 2), with $F_{5,210} = 367.821$ ($p < .001$). H_1 was not supported ($p = .82$), indicating that lodging demand did not differ across seasons within all of the counties. It is possible that the great variability across some of the counties even within the same quarter contributed to the lack of support for this hypothesis. H_2 was strongly supported ($p < .001$). Given that the variable was a categorical variable, the negative coefficient on the variable only indicates that those counties with the higher assigned dummy codes (e.g., Lexington and Richland) may have experienced different types of relationships in QRD. H_3 was also strongly supported ($p < .001$) with admissions positively associated with Quantity of Rooms Demanded, as anticipated. In other words, greater attendance at amusement parks, golf courses, movie theaters, zoos and aquaria, live entertainment theaters, bowling, and collegiate sporting events was generally associated with greater

demand for lodging. These direct effects of County and of Admissions on Quantity of Rooms Demanded must be further considered in light of the findings regarding H₄, the interaction term. Strong support for the interaction of these two variables ($p < .001$) indicates that the nature of the relationship between County, Admissions, and Quantity of Rooms Demanded is more complicated. For purposes of illustration, Admissions has been placed into categorical levels in the graph in Figure 1, which shows the relationship between Admissions and Quantity of Rooms Demanded by County. Clearly evident on the graph are several interesting points. Only two of the counties (Charleston and Horry) experience mean lodging demand of over 100,000 room nights per month. These two counties are noted destinations for the leisure tourist, and their lodging demand patterns show generally increasing levels of lodging demand as attractions demand increases. The other four counties, however, experience relatively flat demand for lodging at any level of attractions demand. Also notable is that three of these counties, Dorchester, Georgetown, and Lexington, never experience more than a mean of 90,000 admissions to attractions per month, while Horry, Charleston, and Richland Counties never experience a mean of less than 30,000 admissions to attractions per month.

TABLE 1
Descriptive Statistics

Variable	Mean	S.D.	Correlations				
			1	2	3	4	5
1. QRD	161028.7	220536.2	1.00				
2. Year	2	.818	.03	1.00			
3. Quarter(QTR)	2.5	1.12	.12+	.01	1.00		
4. Admissions (ADMIT)	99847.7	138411.3	.903**	.026	.122+	1.00	
5. County	3.5	1.71	-.011	.01	.01	.154*	1.00

N=216 Significance levels shown are two-tailed.

+ $p < .10$

* $p < .05$

** $p < .01$

TABLE 2
Regression of Quantity of Rooms Demanded (QRD) on Admissions (ADMIT),
County and Seasonality (QTR)

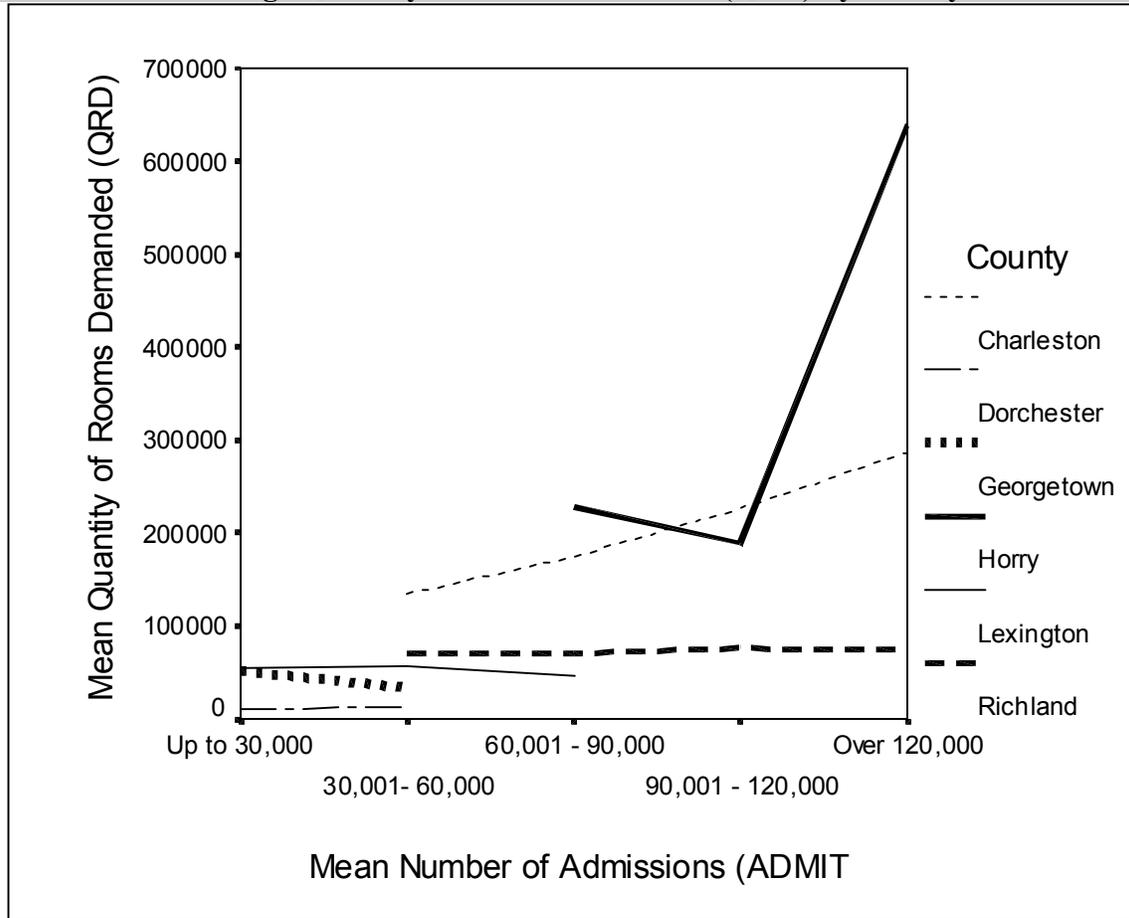
Variable	β	β
Year	.006	.031
Quarter (QTR)	.007	-.005
County	-.154***	.183***
Admissions (ADMIT)	.925***	2.306***
Interaction (County * ADMIT)		-1.490***
R ² / Adj. R ²	.84 / .84	.90 / .90
F-ratio	273.058***	367.821***
F-change		94.763***

Standardized coefficients are shown.

N=216

*** p < .001

FIGURE 1
Relationship between Average Number of Admissions (ADMIT) and
Average Quantity of Rooms Demanded (QRD) by County



DISCUSSION

The results of this study suggest clearly that increasing attendance at recreation and entertainment-related attractions is associated with heightened lodging demand. However, it is also clear that the relationship between attractions attendance and lodging demand may vary from destination to destination. Therefore, Potts and Uysal's (1992) suggestion that localities build new attractions to lure tourists in the off-season must be taken with caution. In certain communities, such as Richland County, increasing attractions attendance was not associated with increased lodging demand. So the degree to which building more attractions will be associated with increased lodging demand remains unclear. For example, if future attractions in Richland County draw long-distance tourists, then they may contribute to higher lodging demand, but the attractions currently available in that county do not appear to do so. On the other hand, the coastal regions of Horry County (Myrtle Beach) and Charleston County have apparently successfully supplemented lodging demand during shoulder and off-seasons by increasing the types and numbers of recreational facilities. For example, Horry County

has brought in more golf courses to drive demand in the fall and spring, and more live entertainment theaters to drive demand year-round. The fact that Georgetown County, a coastal county located between Horry and Charleston Counties, did not realize the same relationship between attractions and lodging demand as the other coastal counties, may also indicate that natural attractions (the beach) may be supplemented by man-made recreational attractions.

Limitations to the findings of this study include its emphasis on counties within only one state. Replication across multiple tourism regions will verify the extent of the generalizability of these findings. Second, regional estimates were used to derive the attraction admissions variable, and though conservatively derived, it is possible that the results were influenced by this method. Third, during this time period, South Carolina Department of Parks, Recreation, and Tourism used a convenience sample to track average daily rate. If a more random sample had been used to gather average daily rate, then the variable QRD in the present study may have qualitatively been changed.

This study represents an initial attempt to quantify the relationship between attendance at recreational attractions and lodging demand. Further research will need to identify more clearly the conditions under which particular destinations may rely on attractions development and marketing to increase their demand for overnight lodging.

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