

# Riverboat Site Selection

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## **Abstract**

*The riverboat casino is the most rapidly expanding segment of the gaming industry. Six states have already legalized riverboat/dockside gaming, and it is currently under review in at least 13 other states.*

*The explosion of this gaming market is fueled by a combination of demand and supply side forces. Gaming, as a form of entertainment, is growing in popularity and acceptance. States experiencing hard economic times view riverboat gaming as a means to generate both non-tax receipts and tourism. Gaming companies seek to profit from this emerging market that has an apparently high demand and, initially, little competition.*

*Competition, however, must continue at a level that allows a new entrant to gain a profitable share of the market. As competition in riverboat gaming continues to escalate, site selection will become an increasingly important factor in predicting the future success or failure of an operation.*

*This paper looks at locational issues in Iowa and Illinois based on market and competitive forces. A regression model, using financial data from the respective state's gaming boards and demographic data from SCAN/US, was developed to relate the gross win and win per square foot (dependent variables) to the independent variable of a population radius. The results were compared to a survey of gaming executives operating in the same states.*

## **Introduction**

**Read My Lips -- No New Taxes.** George Bush remembers how those fateful words cost him the 1992 presidential election. Many state legislators are now caught in the same predicament: how to obtain needed state and local revenue without losing votes by increasing taxes.

Most states are facing a bad situation. They are operating with budget deficits (Vallen, 1993; Smith Barney Shearson, 1993; Sibley, 1991; Dinnen, 1991), which are sometimes compounded by regional recessions. Reduction in federal aid has intensified the problem.

Voters are rejecting new tax referendums. With most state lotteries close to maturity, legislators are now turning to other forms of gaming to stimulate state and local economies and generate additional revenue.

According to *LaFleur's 91 North American Gambling Abstract*, "the growth of state lotteries may have fostered Americans' growing taste for gambling, and increasingly state legislators are finding it palatable to legalize quasi-casino gambling in the interest of promoting tourism and turning a fast government buck" (p.14). Various forms of gaming now spreading rapidly across America include Indian reservation casinos, high payoff video poker machines, small stakes casino towns, video lottery terminals, and riverboat gaming. According to the 1994 edition of *Harrah's Survey of U.S. Casino Entertainment*, visits to riverboat, Indian reservation, and low-stakes casinos in new destinations totalled 35 million.

For many states, riverboats have emerged as a very appealing alternative to consider. Riverboats are being promoted as a means to enhance an area's tourism and tax base. As of June 1994, 47 cruising and dockside gaming boats were operating in Iowa, Illinois, Missouri, Mississippi, and Louisiana. No less than thirteen other states were evaluating tax revenue potential from this emerging market (Smith Barney Shearson, 1993; Turner, 1993; Doocey, 1993a). The Nineties may see every state, with the exceptions of Utah and Hawaii, where no legal forms of gaming exist, considering riverboat gaming.

Compared to Las Vegas or Atlantic City-style gaming, riverboats are more readily accepted by local residents. The gaming activity is controlled by its physical location on either a cruising or dockside vessel. According to Turner (1993), the riverboat concept neutralizes the "not in my backyard" attitude that many people have toward gaming.

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The growing acceptance of gaming as just another form of entertainment also helps to explain the riverboat phenomenon (Smith Barney Shearson, 1993; Lyle, 1993; Midgal, 1992; Mandel, Landler, Grover, DeGeorge, Weber, and Rebella, 1994; *New Harrah's Survey*, 1994; Post, 1992). A recent CNBC-Gallup poll shows that more than two-thirds of Americans approve of some type of legalized gambling. Twenty-two percent of American adults have gambled in a casino at least once. By the year 2000, 95 percent of American households will be within a 200-mile radius of a casino (Smith Barney Shearson).

As always, money is a motivator. Legislators see riverboats as an indirect and less painful way to tax. Local communities also benefit because the boats create a new market for the tourist industry, the possibility of more traffic attracts new businesses, and the standard economic effect creates more jobs in those areas where gambling attracts tourists.

### **Riverboat Explosion**

In 1989, Iowa became the first state in more than 100 years to legalize riverboat gambling (Iowa Gaming Study Committee, 1993; Dinnen, 1991). The idea of cruising riverboats was championed by several Davenport-area lawmakers, who saw it as a way to generate an anticipated \$11 million in annual revenue needed to offset severe budget deficits (Dinnen, 1991).

Not wanting to lose this potential revenue to Iowa, Illinois legalized riverboat gaming in September 1990. The industry expanded at an unprecedented rate, with riverboat legislation enacted in Mississippi in 1990, Louisiana in 1991, Missouri in 1992, and Indiana in 1993. Doocey and Connor (1994) project that approximately 100 floating casinos will be in operation by the end of 1994.

### **Competition**

Riverboat operators are no longer operating in isolated markets. They face aggressive competition from other boats and from Indian and land-based casinos.

Eighty class II casinos are currently in operation in 30 states. Indian casinos may gain the competitive edge over cruising riverboats because of unlimited access, more effective operational cost structures, and higher degrees of customer comfort levels achievable in more spacious casinos.

The expansion of gaming locations further threatens the long-term success of cruising and dockside operations. Mississippi is the only state that allows an unlimited number of licenses. Some argue that this has caused the Gulf Coast region to become oversaturated (Doocey & Conner, 1994; Dow Jones, 1994). Thirteen boats, as of June 1994, operate in the communities of Biloxi, Gulfport, and Bay St. Louis. Another three are under construction, and four are in the planning stage. They will also face competition from one of their primary markets, Louisiana, where as many as ten riverboats are projected to be operating by the end of 1994 (Doocey and Connor, 1994). New Orleans will provide additional intense competition when Harrah's opens its temporary land-based casino in 1995, to be followed by the world's largest casino several years later.

Dockside casinos in Mississippi's Tunica County are discovering that this area is also in danger of being overbuilt. When the eighth casino opened for business in June 1994, President Riverboat Casinos, citing a \$2.7 million loss, announced that it would leave the area within two months ("President Leaving Tunica," 1994). Two months earlier, Tunica's Lady Luck sailed away to Coahoma County. Harrah's Casino in Tunica laid off 20 percent of its staff in June 1994, citing as the cause increased competition in a city that had too many casinos.

The impending crowd of newcomers threatens already declining margins in the state. It is estimated that operating margins have declined to between 25 and 30 percent from 40% in 1992 (Dow Jones, 1994). As of June 1994, 26 riverboats and dockside casinos were open in Mississippi, eight more are licensed but not yet open, and another 39 have applications pending (Dow Jones, 1994).

Boats have also sailed away from the Iowa side of the Mississippi. Strict loss limits (now repealed) of \$5 per bet and \$200 per cruise, coupled with regulations that limited gaming space to 30 percent of the square footage of the boat (now repealed), sent the Casino Belle (the second largest boat in terms of size and win), Diamond Lady, and Emerald Lady to more profitable waters.

### **No Protected Markets**

Turner (1993) projects that, by the end of 1995, riverboats will entertain more than 25 to 30 million people annually. The emergence of riverboats as one of the largest gaming markets in the United States (Turner, 1993; Post, 1992; Post, 1993), along with the rapid growth of Indian and other land-based gaming, threatens to eliminate the protected markets enjoyed by the first boats. With more demands for unlimited licensing, states will begin to move away from riverboat monopolies to the free market (Doocey, 1993b). Doocey (1993a) states, "People who think a protected riverboat market means an area without competition should perhaps think twice. A look at riverboats in Illinois and the casino competition within 100 miles of each boat shows there is no such thing as a protected market anymore" (p.62). Those that are less competitive may not survive.

## Site Selection

As competition escalates, riverboat site selection will become an increasingly important factor in predicting the success or failure of an operation. Early operators had several advantages over those presently entering the riverboat market: limited or nonexistent competition, a new and unique leisure product, consumer demand that exceeded available supply, limited advertising expense due to high consumer awareness, and a relatively low cost of entry (Turner, 1993). Any riverboat located in a newly legalized gaming area would yield high profits. As the supply of casinos entering the market increases, operators must recognize and evaluate the key variables that will render success or failure. Long-term profitability will require a thorough understanding of the location analysis process.

The location of a riverboat casino determines the type and number of people it will attract. The appropriate location provides ready access to a large number of target customers who will routinely patronize the business. As each gaming market has unique characteristics, the viable operation will produce a gaming product that meets the specific needs of the individual market, local community, and gaming regulators. Fulfilling these objectives requires a thorough understanding of customer demographics and the physical properties of the construction site.

It is becoming more costly to enter the riverboat market. The operator must weigh the total costs involved in the application licensing process against the chances of being selected. In March 1994, the Indiana Gaming Commission was busy reviewing the 39 applications, at \$50,000 each, that had been filed in anticipation of securing one of 11 licenses. The Gaming Commission hopes to have finished awarding all of the licenses by sometime in 1995 (Labalme, 1994).

The risk of lost application costs will escalate as more companies compete for licenses. Most jurisdictions also incorporate an investment commitment for the infrastructure of the local community. Location analysis can help determine whether it is cost-effective to vie for a license in a particular area.

The probability of success, therefore, of each individual boat operation is highly dependent on its location. Despite its predictive importance, little has been written about the process of site selection as it applies to this segment of the gaming industry. This study was undertaken to assess how site selection relates to riverboat profitability.

### The Decision To Enter New Markets

The two major factors affecting a company's decision to enter a new market are market forces and the political/social environment. There must be a strong demand for gaming. Additionally, the competition must be at a level that allows a new entrant to gain a profitable share of the market.

The other factor to be considered in the decision making process is the political/social environment. The attitude of the residents of an area can have a major influence on politicians' actions toward gaming. The introduction of riverboats can greatly affect local residents. For example, residential rents have increased by \$200 in Mississippi's Tunica County, putting a burden on low-income residents (Cooper, 1994). The town of Fort Madison, Iowa, borrowed \$2.6 million to build a docking facility for the Emerald Lady. Tax income from the boat was to pay the \$250,000 per year payments. The boat left after fourteen months, leaving local residents to pay off the debt through increased taxes.

Communities are also finding that riverboats do not always bring additional dollars to the region. Local wagering simply redistributes money. Downtown merchants in Alton, Illinois, report only minimal business generated by the local riverboats, while some merchants in Memphis claim their business has decreased since the boats arrived in Tunica (Mannies and Schlinkmann, 1994; Bersen, 1994).

Laws created by politicians and changes to these laws can affect the profitability of riverboats. The provision for dockside gambling in Biloxi hurt the original "boat" casinos. The new barge casinos with their high ceilings and spacious and open multi-level facilities were no match for the low ceilings and narrow aisles of Biloxi's conventional riverboats. Iowa's revocation of its low wagering limits helped the Iowa boats, but caused the boats on the Illinois state line to lose their competitive advantage.

Communities and governments looked to riverboats as the answer to their financial problems. Those communities that approved riverboats did so based on faith, as there was little historical data to help them make a decision. Some communities have had good experiences with riverboats, while the experiences of others have been disastrous. Governments have made mistakes, recognized their mistakes, and changed the rules in the middle of the game. Today, the environment for riverboats is unsettled. Riverboat companies want to be a welcome member of the community, and they want to develop their projects in a fair and stable political environment.

It is not within the scope of this paper to go into detail about these political and social issues. The focus of this is locational issues based on market and competitive forces.

### Location Models

#### Concentric Ring Model

According to Constan (1993), the most simplistic model useful in analyzing a potential gaming market is the concentric ring model. This method is derived from documented relationships between travel distance and gaming behavior. In other words, people who live closer to the casino are more likely to go and will go more frequently than those who

must travel longer distances.

Propensity and frequency are the two main elements in this model. Constan defines propensity as the percentage of the adult population that will go to a casino at least once a year and frequency as the average number of visits made by those who are gamers. The number of visits can be estimated by multiplying the adult population in a given region by the propensity to

determine the number of gamers, and then multiplying the number of gamers by the frequency to forecast the annual number of gamer visits. Companies that evaluated the riverboat market in Indiana and Missouri used the concentric ring model to decide whether the population base of a potential site could adequately support a gaming operation. This is particularly critical if other riverboat or gaming operations already exist or are planned in the near future.

The State of Illinois is a good example of the successful application of the concentric ring model. The sites are more evenly distributed around the state compared with the cluster design seen in Mississippi. Each of the nine sites can be supported by either local or day-trip business. Illinois riverboats have been consistently among the most profitable in the industry.

As in Christaller's central place theory of retail location, the range of the potential market area is defined as the maximum distance a customer is willing to travel for the good or service (Craig, Ghosh, & McLafferty, 1984). The range establishes the outer limit of the market; for riverboats this is the 150 - 200 miles that constitutes a day trip. The

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radius of the area containing the population that can just support the business establishes the inner range, or threshold (Craig, et al., 1984). The central place theory states that the business will be successful if the outer range exceeds the inner range.

As gaming behavior varies with miles traveled, the potential market area is then subdivided into concentric rings of increasing radius. The inner ring usually has a radius of 25 to 50 miles, the middle ring a radius of 75 to 100 miles, and the outer ring a radius of 150 to 200 miles. The adult population within each area can be determined using census data. The number of annual gamer visits is then calculated by multiplying the adult population in each ring by the estimated frequency of travel. Prospective operators are using this method to learn how large a market area is needed to support a riverboat.

Constan (1993), however, cautions that the concentric ring model works only for markets without significant local competition. It is not applicable to newly emerging markets with many gaming facilities in several locations. This scenario, as illustrated by Tunica County and Mississippi's Gulf Coast, creates substantial overlap between the market areas (Constan, 1993).

The first operators in Tunica, for example, calculated that the outer range, or day trip, was sufficient to support a few casinos. The inner ring, based on the population of Tunica alone, clearly could not support even one casino. The initial casinos were highly profitable, which led other operators to believe that the market was potentially unlimited. These later entrants into the market, however, failed to recognize that the outer ring of the market was diluted by the increased number of gaming choices. As a result, three casinos in Tunica have closed and two more have filed bankruptcy. The concentric ring model will be less useful as gaming, in its various forms, continues to expand.

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### **Gravity Model**

The gravity model traditionally used to determine the market area of a store or shopping center (Simons, 1992; Curry & Moutinho, 1992; Rogers, 1992), can also be applied to riverboat site selection. The model states that given shopping centers of equal size, people will shop more frequently at the closest one. When the shopping centers are of unequal size, people will gravitate to the larger, more diverse center more frequently and from greater distances than to the smaller shopping center. The model predicts that consumer preference is directly related to a quantifiable factor such as square feet and inversely related to the square of the travel distance (Constan, 1993).

Constan (1993) confirms the applicability of the gravity model to riverboat establishments. In a study done of the Mississippi Gulf Coast market, it was found that people living east of the casino developments were more likely to patronize the eastern casinos, while people to the west were more likely to frequent the western casinos. As predicted by the gravity model, two major exceptions surfaced. Two of the largest casinos were successful in attracting the business of customers from longer distances in spite of the increased travel time. The gravity model, combined with the estimates of total number of gamer visits derived from the concentric ring model, can be used to forecast the distribution of gamer visits from a defined geographic area to each gaming location (Constan).

The model can also be adapted to consider other factors, such as competition and image (Constan; Rogers, 1992). With the rapid rise of gaming competition, the attractiveness factor of each individual riverboat will yield more weight in this equation.

A prime example of the gravity model at work is the introduction of gaming riverboats in Eastern Louisiana. Since the boats in Eastern Louisiana offer essentially the same service as the Mississippi Gulf Coast, casinos in the Gulf region have seen a significant reduction in customers coming from Louisiana. Atlantic City has also witnessed the effects of the gravity model. Unlike Las Vegas, which has positioned itself as a resort destination, Atlantic City remains vulnerable because it relies on the day-trip business, which is a product easily duplicated by new jurisdictions. Slot revenues at Foxwood's casino in Connecticut, for example, now run 50% ahead of Atlantic City's (Wertheim Schroder, 1993). Operators in Atlantic City fear an additional loss of market share if gaming is legalized in Pennsylvania.

Las Vegas may remain as the best example of the gravity model in full operation. Even though gaming continues to expand, Las Vegas is more popular than ever because it offers an unparalleled experience. The uniqueness of the mega-resorts has strengthened the position of Las Vegas as a resort destination that offers more than gaming entertainment. Customers are willing, although gaming may be present in their own area, to spend the additional time traveling to Las Vegas. On the other end of the gravity model, drive-in customers from the Los Angeles area seeking just a gaming experience frequently stop at the casinos on the Nevada-California border rather than driving an additional thirty miles. Incoming customers from Utah have popularized casinos near the Utah-Nevada border, which is approximately 90 miles from Las Vegas.

### **Regression Analysis**

Another option for analyzing the attributes of a potential site for a riverboat operation is regression analysis. In this method, the dependent variable, such as gross win, is explained by the positive or negative influence of one or more independent variables, such as population. This forecasting model, which has been applied to retail location analysis since the 1960's (Rogers, 1992), may be useful in isolating and quantifying the predictor variables that are significantly correlated with market share and profitability. This study uses regression analysis to identify factors important in the selection of a riverboat site.

### **Methodology**

This paper examined the two states to first legalize riverboat gaming, Iowa and Illinois, respectively. The gaming statistics for individual riverboats is public information in these states. The gross win, admissions, slot win, table win, and the size of the casino were obtained from the Iowa Racing and Gaming Commission and the Illinois Gaming Board and tracked for the twelve boats operating in these states. The win per square foot was calculated and included in the study. Some early reports did not include the number of slot machines or square footage. This was obtained, when needed, from the individual boats.

The data included in the study was for the nine-month period of July 1993 to March 1994. All boats in the study were operating during these nine months. The gross win, per square foot, and admissions were average monthly figures. The win per table and win per slot were average daily figures.

Demographic data for the populace in the potential geographic market for each boat was obtained using SCAN/US geodemographic software. The demographic data was collected for radii of 50 miles, 100 miles, and 175 miles. These radii are consistent with radii used by casino operators when looking at locations, according to demographic researchers we contacted. The radius of 175 miles captured the metropolitan Chicago area for the boats in Iowa. The study was limited to the demographic categories available through the software. Two of the demographic categories provided by the software were persons twenty

years or older and persons twenty-five or older with at least a high school education. There was not a category on the software for population twenty-one or older. The two categories chosen allowed the data to be analyzed using a lower age that included all of the population and a higher age that included only those with at least a high school education.

The riverboats in this region provided a good mix of operations. Iowa had originally set betting limits of \$5 per hand and \$200 per trip, while Illinois did not have limits. Chicago residents, who live four hours away, is one market for the riverboats in Iowa and in Illinois near the Iowa border. Three boats are located in suburban Chicago, and two more boats operate in suburban St. Louis. Additionally, there are two boats in larger cities in mid-Illinois, Peoria and another boat in Metropolis, which is at the southern tip of the state. These seven boats are dependent on local markets. Thus, the boats involved in the study are a mix of limited stakes and high stakes gambling and have market catchment areas ranging from 175 miles to 50 miles. The riverboats included in the study were:

<b>Boat</b>	<b>Location</b>
President	Davenport, IA
Mississippi Belle II	Clinton, IA
Sioux City Sue	Sioux City, IA
Alton Belle	Alton, IL
Par-A-Dice	Peoria, IL
Casino Rock Island	Rock Island, IL
Empress & Empress II	Joilet, IL
Silver Eagle	East Dubuque, IL
Players	Metropolis, IL
Northern Star & Southern Star	Joilet, IL
Casino Queen	East St. Louis, IL
Hollywood Casino	Joilet, IL

There was no consensus among gaming executives or government gaming officials as to the most meaningful measurement of financial success. Gross win, per admission, and win per square foot were all mentioned as indicators of profitability.

This data was used to build the regression models relating the gross win and win per square foot (dependent variables) to independent variables. The independent variables included the population within radii of 50, 100, and 175 miles. Regression analysis assumes that the independent variables are independent of each other. Thus, only one variable representing population could be used in the equation, since the outer rings contained the population of the inner rings. The size of the ring (50, 100, 175) and the population age (twenty+ or twenty-five+) were chosen based on the variable that created the best fit in the equation and thus explained the most variance in the dependent variable. The twelve boats combined had been in operation for a total of 230 months during the study period.

## **This study looked at factors gaming executives considered when making site location decisions.**

### **Regression Analysis**

The regression analysis was limited to one dependent variable and one independent variable because of the small sample size, twelve. A rule of thumb in using regression is that there should be at least ten observations for each independent variable. This restriction prevented the development of a multivariate model, however, we could investigate the influence of the different independent variables on gross win and win per square foot.

An important question in the site selection process for a riverboat is which radius is the most important. In the first set of regression equations gross win was used as the independent variable and the demographic data was used as independent variables. Each radius was analyzed using the twenty plus and the twenty-five plus population data. In all cases the twenty plus population radii explained more variation than the twenty-five plus population. The results of the regression analysis summarized in Table 1.

**Table 1. Results of Regression Analysis of Population Over 20 Years and Casino Gross Win**

Radius	Coefficient	Significance	R <sup>2</sup>	Coefficient of Constant	Significance
50 miles	1.79	.01	.76	2617810	.02
100 miles	1.41	.01	.68	1225223	.35
175 miles	.54	.14	.20	794434	.82

The information in Table 1 for the 50-mile radius can be interpreted as follows. The 1.79 coefficient means that for every additional person over twenty living within 50 miles of the riverboat one could predict another \$1.79 in gross win per month. The constant of \$2,617,810 is added to population calculation to provide a prediction of gross win. The equation for gross win would be population over twenty x \$1.79 plus \$2,617,810. A significance level of .05 is used to decide if the effect of the number of persons living in each of the three bands on gross win is statistically significant. If it is significant, this supports the claim there is a linear association between the population within a radii and the gross win. The R squared is the amount of variation in the dependent variable explained by the independent variable. The 50-mile radius explains 76% of the variance in gross win.

Table 2 gives the results of the regression analysis when win per square foot was used as the dependent variable. In these sets of equation the over twenty years of age radii explained the most variation in all three bands. The 50-mile radius had the highest R squared. As the size of the radius increased the amount of variation explained decreased.

**Table 2. Results of Regression Analysis of Population Over 20 Years and Per Square Foot in Dollars**

Radius	Coefficient (per 100,000 people)	Significance	R <sup>2</sup>	Coefficient of Constant	Significance
50 miles	1.89	.01	.47	7.43	.01
100 miles	1.56	.02	.46	5.72	.03
175 miles	.94	.04	.34	1.93	.66

Two other areas of interest are the impact of competition and betting limits. The boats with competitors within fifty miles were compared with the boats that did not have any competition within fifty miles. The boats in Iowa had betting limits during the time of the study. They were compared with boats in Illinois. The results of these comparisons are shown in Tables 3 and 4.

**Table 3. Comparison of Casinos With and Without Direct Riverboat Competition**

Variable	Mean with Competition	Mean Without Competition	Significance
Admissions	151,672.00	65,872.00	.01
Win per admission	49.86	38.89	.24
Win per slot	235.63	136.19	.11
Win per table	2089.51	953.55	.04
Win per square foot	12.89	8.22	.19

**Table 4. Comparison of Casinos With and Without Betting Limits (Iowa vs. Illinois)**

Variable	Means Without Betting Limits	Means With Betting Limits	Significance
Admissions	140,141.00	43,266.00	.04
Win per admission	51.37	27.04	.01
Win per slot	235.00	71.78	.01
Win per table	2068.74	258.56	.01
Win per square foot	13.53	3.20	.01

### Survey of Riverboat Executives

This study looked at factors gaming executives considered when making site location decisions. Through personal interviews with casino executives in the Las Vegas area, fifteen items were identified as important in the selection of a site for a riverboat. A survey was developed asking respondents to rate these items on a five-point scale, with one being unimportant and five being very important.

The survey was sent to twenty-three riverboat executives with operations in Iowa and Illinois. The executives were general managers of riverboats, presidents of companies operating riverboats, and CEOs of these companies. Fifteen people responded for a response rate of 65 percent. One survey was not used, as it was from a personnel director and all the others were from positions one would expect to be involved in the site selection process for their company's riverboats. The respondents included 2 CEOs, 1 corporate secretary, 1 COO, 3 presidents, 3 general managers, 2 VP/operations, and 1 VP/marketing. One respondent elected not give a title as this was optional. The results of the survey are found in Table 5.

Table 5. Results of The Gaming Executive Survey

	Not Important	Below Avg. Importance	Average Importance	Above Avg. Importance	Very Importance	Mean
Laws specifying win/loss limits	0%	0%	7%	21%	71%	4.61
State and local tax structure	0%	7%	14%	21%	50%	4.23
Total cost involved in obtaining the license (feasibility studies, license fee, presentation, etc.)	0%	7%	57%	21%	7%	3.31
Proximity to an airport	0%	57%	36%	7%	0%	2.50
Proximity to a major highway or interstate	0%	0%	0%	57%	43%	4.43
Visibility of site from the highway	0%	21%	21%	36%	21%	3.60
Accessibility and infrastructure of local roads and transportation	0%	0%	21%	21%	50%	4.31
Ease and cost of site development	0%	7%	36%	29%	29%	3.79
Other tourist attractions in the area	0%	21%	43%	29%	7%	3.21
Another riverboat already operating in the same city	7%	7%	21%	21%	43%	3.86
Riverboat competition within 50 miles (1 hr. drive)	0%	0%	21%	57%	21%	4.00
Indian gaming within 50 miles (1 hr drive)	0%	0%	21%	50%	29%	4.07
Financial ability of the company to make a competitive bid in light of anticipated competitive bids and financial support required by the local government	0%	0%	21%	50%	29%	4.10
Right to an exclusive riverboat market						
14 a. 1 year	7%	7%	7%	21%	43%	4.00
14 b. 2 years	7%	0%	14%	29%	36%	3.43
14 c. 3 years	0%	0%	14%	43%	29%	4.17
14 d. more than 3 years	0%	7%	14%	21%	57%	4.29
Population base; rate each category						
15 a. 0 - 25 miles	0%	7%	0%	14%	79%	4.64
15 b. 0 - 50 miles	0%	0%	7%	21%	71%	4.64
15 c. 0 - 100 miles	0%	0%	21%	57%	21%	4.00
15 d. 0 - 150 miles	0%	29%	29%	43%	0%	3.14
15 e. over 150 miles, please specify:	14%	36%	36%	7%	0%	2.38

## Analysis of Results

### Competition

The significant factors in Table 3 were the number of admissions and win per table, which were significantly greater for those boats with competition at the .05 level. In all cases the numbers for boats with competition were higher than those without competition. One interpretation of these figures is that larger markets can support multiple boats. This market was not saturated with competition and those riverboats in larger markets, such as Chicago, were able to support several boats in the same market.

Overall gaming executives also rated competition as fairly low in importance, 3.86. However, the group was split on this issue, with 6 giving it a rating of 5, 4 executives gave it a rating of 4, while the others rated it 3 or below. Thus the rating for the top nine respondents was 4.67, while the rating for the other five was 2.4.

This could be a reflection of where their companies were operating riverboats. One implication of our study is that competition is not a significant factor in the Illinois/Iowa market. However, in Biloxi some boats have left because of competitive pressures and other boats have seen their win per machine and table drop. In open markets, such as Mississippi one can expect competition to become a factor.

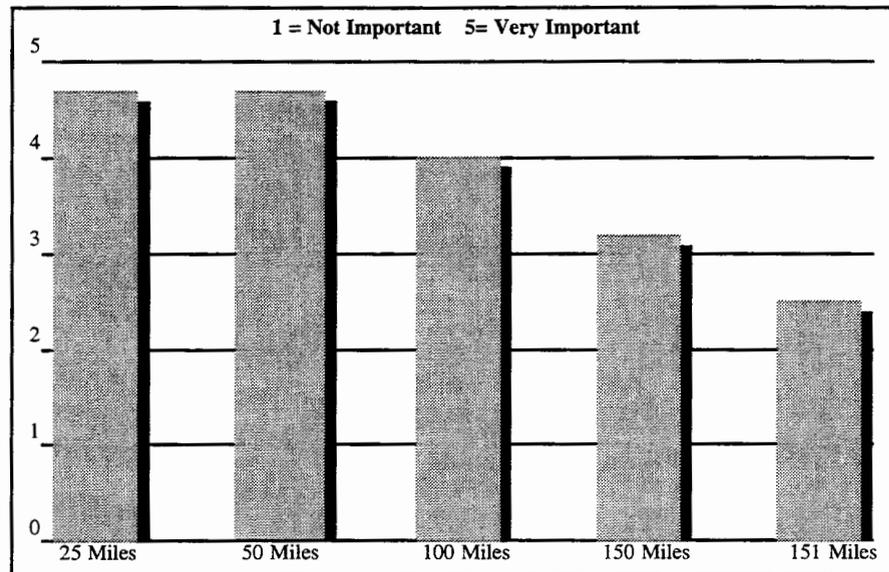
As competition increases, riverboat gaming will become like any other business. Riverboats offering more value to their target markets will be successful. Businesses that are poorly managed or improperly positioned may not be successful. Being a successful applicant for a riverboat license, in an open market, no longer guarantees a profitable business venture. In Mississippi, two boats have departed, and the win per slot machine has dropped from \$209 to \$107 (Papain, & Hetter, 1994). Managers must factor competition and the potential for future competition into site location decisions. Additionally, as markets become more competitive, segmentation will occur. The Star Casino in New Orleans provides a good example of market segmentation. It focuses on the local market and it competes with the local bars to fulfill the social needs of its customers. As markets become saturated, casinos will be forced to focus on specific segments. Management will have to identify those attributes in the casino that will create perceived value for the chosen market segment and build a casino that creates value for that market segment.

### Low Betting Limits

The analysis suggested low betting limits had a large negative effect on admissions, win per slot, win per table, and win per square foot. All of these factors were significant at the .05 level. The executives also suggested that laws specifying win/loss limits were very important. Now that the low limit laws have been repealed in Iowa, it will be interesting to see if Iowa's boats can rebound from this initial handicap.

### Population

In Table 1 and Table 2 a radius of 50 miles explained the most variation. As riverboats proliferate, the market areas of the riverboats will shrink. In planning a riverboat, it is important to consider likely future competition. The casino executives validated the results of the regression, citing the 25-mile and the 50-mile radii as the most important. The regression model and the casino executives suggest that riverboats are dependent on a local market. With riverboats operating in an ever increasing number states and the proliferation of Indian Casinos and other land based casinos, the market area for riverboats is shrinking.

**Figure 1. Perceived Importance of Population Radii by Gaming Executives**

#### Other Factors Cited

Gaming executives were interested in the state and local tax structures. This is more of a political issue, but certainly having a favorable tax structure is important. The executives were also concerned with proximity to a major highway and the infrastructure of the local roads. The executives did not seem concerned about visibility from the highway, but they did want easy access by good roads and highways for their customers. The right to an exclusive market was important. One executive stated that this is more of a wish. In the future, it will be very difficult, if not impossible, to get exclusive rights.

#### Limitations of the Study

##### Income

The study did not look at income as a variable. Income is imbedded in the population rings. Including income in the equation would have made the regressions models too complex for the number of observations in the model.

##### Facilities

As competition among casinos increases, physical facilities, food and beverage outlets, and other amenities will make a difference in attracting customers. The authors gained information about food and beverage facilities from brochures and by calling the casinos. The type and number of food and beverage facilities was entered into the equation. The food and beverage information did not provide meaningful variables, because the information from brochures was too limiting. To properly quantify food and beverage facilities, the actual facilities would have to be observed and rated.

## Summary

This study analyzed competition and market variables affecting the selection of a site for a riverboat casino. This was done by using historical data from Illinois and Iowa and through surveys of gaming executives. The survey results and the results of regression analysis of the historical data were similar. Important factors identified by each study were population within 50 miles of the site and limits on wagering. The gaming executives were also concerned about easy access by road. The study suggests competition does not have a negative effect if there is sufficient market demand for multiple boats. It also appears that riverboats are quickly becoming a regional draw; market areas of fifty miles or less can be expected for most boats. Additional studies should be done for other states with legalized riverboat gaming.

## References

- Bernsen, C. (1994, April 3). *Gaming's uglier visage emerging*. THE COMMERCIAL APPEAL, pp. A1, A4.
- Constan, L. (1993, May). NEW FRONTIERS IN GAMING MARKET RESEARCH. Paper presented at the 9th International Conference on Gambling and Risk Taking, Las Vegas, NV.
- Cooper, H. (1994, June 22). *Mixed blessing: Southern town's history haunts golden future as riverfront-casino riches roll in*. THE WALL STREET JOURNAL, pp. 1,8.
- Craig, S.C., Ghosh, A., & McLafferty, S.(1984). *Models of the retail location process: A review*. JOURNAL OF RETAILING, 60 (1), 5-36.
- Curry, B., & Moutinho, L. (1992). *Computer models for site location decisions*. INTERNATIONAL JOURNAL OF THE RETAIL AND DISTRIBUTION MANAGEMENT, 20(4), 12-17.
- Dinnen, S. (1991, December 6). *Taking a chance on riverboats*. THE WASHINGTON POST, pp. B1, B4.
- Doocey, P. (1993b). *Flotsam, jetsam, and loose shards of thought*. INTERNATIONAL GAMING AND WAGERING BUSINESS, 14(12), 48-49
- Doocey, P. (1993a). *Trendline riverboats*. INTERNATIONAL GAMING AND WAGERING BUSINESS, 14(10), 60-62.
- Doocey, P., & Connor, M. (1994). *Gaming explosion to continue in '94*. INTERNATIONAL GAMING AND WAGERING BUSINESS, 15(1), 19-25.
- Dow Jones Business Release. (1994, June 7).
- Iowa Gaming Study Committee (1993). A STUDY OF THE IOWA GAMING INDUSTRY, RECOMMENDATIONS FOR STATUTORY CHANGES AND MINORITY REPORT.
- Labalme, J. (1994, March 6). *Casino firms shift their Indiana bets*. THE INDIANAPOLIS STAR, pp. B1, B7.
- LaFleur, T. (1991). LAFLEUR'S 91 NORTH AMERICAN GAMBLING ABSTRACT. Maryland: TLF Publications, 1991.
- Lyle, R. (1993). *Rollin' on the river*. HOTEL AND MOTEL MANAGEMENT, 208, 19-20.
- Mandel, M.J., Landler, M., Grover, R., DeGeorge, G., Weber, J., & Rebella, K. (1994, March 14). *The entertainment economy*. BUSINESS WEEK, pp. 58-64.
- Mannies, J., & Schlinkmann, M. (1994, March 20). *Gambling's allure: fiscal fuel or fool's gold?* ST. LOUIS POST-DISPATCH, pp. 1A, 7A.
- Migdal, D. (1992). *The sticks raise the convention stakes*. MEETINGS AND CONVENTIONS, 27(4), 68-75.

- New Harrah's survey says that casino gaming is more popular than baseball.* (1994, May 5). INTERNATIONAL GAMING AND WAGERING BUSINESS, 15(5), 62.
- Papkin, J., & Hetter, K. (1994, March 14). *America's gambling Craze.* U.S. NEWS AND WORLD REPORT, 116(10), 42.
- Post, T.J. (1992). *Riverboat gaming represents growing share of leisure market.* TRAVEL WEEKLY, 50(31), 32-33.
- Post, T.J. (1993). *Riverboats pick up speed, lead U.S. gaming market in growth.* TRAVEL WEEKLY, 52(39), 65-66.
- President leaving Tunica; builder hammers palace; IGM asks new splash deal.* (1994, June 20). NATIONAL GAMING SUMMARY, 4-5.
- Rogers, D. (1992). *A review of sales forecasting models most commonly applied in retail site evaluation.* INTERNATIONAL JOURNAL OF RETAIL AND DISTRIBUTION MANAGEMENT, 20(4), 3-11.
- Sibley, T. (1991, October 29). *Riverboat gambling gathers steam.* THE CHRISTIAN SCIENCE MONITOR, p. 12.
- Simons, R.D. (1992). *Site attributes in retail leasing: an analysis of a fast food restaurant market.* THE APPRAISAL JOURNAL, 60, 521-529.
- Smith Barney Shearson (1993, December). NATIONAL GAMING REVIEW, vol. 1.
- State of Illinois (1993, March 1). ILLINOIS GAMING BOARD ANNUAL REPORT FOR 1992.
- Turner, B., Director (1993, January 22). *New life on the Mississippi and elsewhere.* LEISURE INDUSTRY RESEARCH.
- Vallen, G.K. (1993). *Gaming in the U.S. - a ten-year comparison.* THE CORNELL HOTEL AND RESTAURANT ADMINISTRATION QUARTERLY, 34(6), 51-58.
- Wertheim Schoder & Company. (1994, March). GAMING INDUSTRY UPDATE. THE NEXT STAGE: GAMING COMES TO WHERE THE PEOPLE ARE.

