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A SURVEY OF CAPITAL-BUDGETING METHODS USED BY THE HOTEL/GAMING INDUSTRY

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and

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ABSTRACT

This study examines the capital-budgeting and cost of capital procedures commonly used in the gaming segment of the hospitality industry, using survey research. Findings are compared with previous studies of similar nature. As such, the practice of capital-budgeting/cost of capital techniques in the gaming sector is better understood.

Introduction

The casino/gaming segment of the hospitality industry is rapidly growing. Entry by hospitality industry firms and others into these lines of business is not without risk. "The expansion of casino gaming will make winners out of the companies that acquire the best locations and create the most innovative facilities. Companies that lack the resources to adapt and grow are likely to be hurt by the onslaught of competition" (Value Line, 1994). This expansion of the hospitality industry into gaming, which is fixed-asset-intensive, has required firms specializing in gaming activities to make capital investment decisions. It is therefore important to determine the capital-budgeting practices of these gaming firms.

There have been many studies performed on the capital-budgeting practices of major U.S. firms. Gitman and Forrester (1977), Gitman and Mercurio (1982), Brigham (1975), and Fremgen (1973) are examples of published research on capital-budgeting techniques employed by Fortune 500/1000 U.S. corporations. However, there have only been a few studies performed to determine the capital expenditure and capital acquisition policies of firms in the hospitality industry. Two of the major studies in this area were conducted in 1981 and 1990.

Eyster and Geller (1981) compared the development of capital-budgeting techniques employed by firms between 1975 and 1980. Their study included both lodging and food service companies. Eyster and Geller concluded that even though the industry used more sophisticated methods in 1980 than it did in 1975, the capital-budgeting techniques used in the hospitality industry were misleading and naive as compared to other industries. The 1990 study by Schmidgall and Damitio (1990) concluded that more hospitality industry firms used in 1990 discounted cash flow measures in their decision making than they did in 1980. However, Schmidgall and Damitio noted that many hotel chains still did not use formal risk analysis in their decision-making processes. The Schmidgall and Damitio study was limited to large lodging chains.

There have been no studies to determine what the capital-budgeting and cost of capital procedures are in the gaming segment of the hospitality industry. The purpose of this study was to determine what capital-budgeting and cost of capital procedures are being used in the gaming segment of the hospitality industry and to compare the responses with those reported in the two previous studies of capital-budgeting techniques in the hospitality industry, where such a comparison was possible. The gaming segment is growing rapidly as a result of recent opportunities for growth. Gaming operations require larger investments in capital expenditures than the rest of the hospitality industry. Therefore, the expectation is that gaming firms would use more sophisticated capital-budgeting procedures than the hospitality industry in general and would more closely mirror the capital-budgeting practices of major U.S. firms.

Sample Selection and Data Collection

The firms surveyed for this study were identified as being in the hotel and gaming industry by the Value Line Investment Survey. Value Line lists 15 hotel and gaming companies; however, one of these firms is a manufacturing company and therefore was excluded from the survey. A 13-question survey instrument was mailed to the 14 firms shown in Exhibit 1 below in the sample on July 7, 1994, with a stamped return envelope. A limitation to the study is that the survey was conducted based on the Value Line Investment Survey of the Hotel/Gaming industry, which is not a complete list of hotel and gaming companies.

Exhibit 1 Firms Participating in the Study

Jackpot Enterprises
Marriott International
Promus
Rio Hotel & Casino
Showboat
Aztar
Bally Entertainment
Caesar's World
Circus Circus
Four Seasons
Hilton Hotels
La Quinta Inns
Marcus
Mirage Resorts

A second mailing was sent three weeks later. Of the 14 possible respondents, eight completed questionnaires were returned, seven of which were usable, for a usable response rate of 50%. Since only seven firms provided usable responses, the results may not be a good representation of the gaming segment of the hospitality industry. The 1990 study by Schmidgall and Damitio mailed questionnaires to the 150 largest lodging chains. They

received 46 usable responses for a response rate of 31% (Schmidgall and Damitio, 1990). Eyster and Geller mailed questionnaires to 1,071 companies and received 120 responses for a response rate of 11% (Eyster and Geller, 1981).

Measured by total assets, the firms in this study are quite large, as shown in Table 1 below. Five of the seven responding firms (71%) have assets greater than \$750 million. The other two responding firms (29%) have assets between \$100 and \$500 million.

Table 1
Asset Size of Responding Firms

Asset Size	Number	Percent
Less than \$100 Million	0	0%
\$100 Million to \$500 Million	2	29%
\$500 Million to \$750 Million	0	0%
Over \$750 Million	5	71%
Total Responses	7	100%

Capital-Budgeting Statistics

To determine the extent of the capital budget in the sample, three questions were asked of the respondents. First, the respondents were asked about the size of their annual capital budget. Table 2 summarizes these results. Five of the responding firms (71%) reported having annual capital budgets in excess of \$50 million. One firm (15%) reported an annual capital budget of less than \$10 million and one company (15%) had an annual capital budget between \$20 and \$50 million. These results support the fact that this segment of the hospitality industry is in a growth mode.

Table 2
Size of Annual Capital Budget

Annual Capital Budget	Number	Percent
Less than \$10 Million	1	14%
\$10 Million to \$20 Million	0	0%
\$20 Million to \$50 Million	1	14%
Over \$50 Million	5	71%
Total Responses	7	100%

The survey instrument asked the respondents to provide the size of a project that would require a formal analysis. Two firms (29%) indicated that the minimum project size was less than \$100,000 to require formal analysis, while two others (29%) established a

threshold of over \$1,000,000 before formal analysis would be required. The remaining three respondents (42%) have established guidelines between \$100,000 and \$500,000. These findings are summarized in Table 3. Interestingly, 40% of the respondents to the 1990 study by Schmidgall and Damitio reported that expenditures in excess of \$100,000 were considered major, and presumably would require formal analysis (Schmidgall and Damitio, 1990). The study by Eyster and Geller reported significantly lower thresholds of project size to determine whether an analysis was required (Eyster and Geller, 1981), which seems to indicate that minimum project sizes requiring formal analysis grew larger between the study dates.

Table 3
Project Size Required for Formal Analysis

Project Size Required for Formal Analysis	Number	Percent
Less than \$100,000	2	29%
\$100,000 to \$500,000	3	42%
\$500,000 to \$1 Million	0	0%
Greater than \$1 Million	2	29%
Total Responses	7	100%

Table 4 presents the project acceptance rate of those projects that are formally analyzed. None of the firms reported an acceptance rate of less than 25%. Three of the gaming companies (43%) accepted projects between 25 and 50 percent of the time, and four of the firms (57%) accepted over 50 percent of the projects that were analyzed. These high acceptance rates were expected due to the growth of the gaming segment of the industry. The previous two studies did not measure acceptance rates.

Table 4
Percent of Projects Accepted

Percent of Projects Accepted	Number	Percent
Less than 10%	0	0%
10% to 25%	0	0%
25% to 50%	3	43%
Over 50%	4	57%
Total Responses	7	100%

Capital-Budgeting Procedures

The survey instrument requested that the responding firms choose the most difficult and the most important stage of the capital-budgeting process. The results are shown in

Table 5. As far as the most difficult stage in the capital-budgeting process was concerned, 43% (3) indicated that Project Definition and Cash Flow Estimation was the most difficult stage. An equal percentage of the respondents (43% or 3 firms) indicated that Financial Analysis and Project Selection was the most difficult stage of the capital-budgeting process. One firm (14%) selected Project Implementation as the most difficult stage.

As far as the most important stage in the capital-budgeting process was concerned, 43% (3) indicated that Project Definition and Cash Flow Estimation was the most important stage. An equal percentage of the respondents (43% or 3 firms) indicated that Project Implementation was the most important stage of the capital-budgeting process. One firm (14%) selected Financial Analysis and Project Selection as the most important stage. These questions were not asked on the two previous studies.

Table 5
The Most Difficult and the Most Important Stages
of the Capital-Budgeting Process

The Most Difficult and the Most Important Stages of the Capital-Budgeting Process	Most Difficult Number	Most Difficult Percent	Most Important Number	Most Important Percent
Project Definition & Cash Flow Estimation	3	43%	3	43%
Financial Analysis and Project Selection	3	43%	1	14%
Project Implementation	1	14%	3	43%
Project Review	0	0%	0	0%
Total Responses	7	100%	7	100%

Capital-Budgeting Techniques

One of the purposes of this study was to determine which capital-budgeting techniques are used by firms in the hotel/casino segment of the hospitality industry. These results could then be compared with results of previous studies on the capital-budgeting techniques employed in the hospitality industry. The choices offered in this survey instrument were identical to the options provided by Eyster and Geller in their 1981 study and Schmidgall and Damitio in their 1990 study. Respondents were given the opportunity to choose a primary and a secondary capital-budgeting technique. None of the companies indicated that no capital-budgeting techniques were employed. The 1990 study reported that 15% of the lodging chains did not use capital-budgeting techniques (Schmidgall and Damitio, 1990). Table 6 displays the results of the preferred capital-budgeting techniques for this study.

Table 6
Primary and Secondary Capital-Budgeting Techniques in Use

Primary and Secondary Capital-Budgeting Techniques in Use	Primary Number	Primary Percent	Secondary Number	Secondary Percent
Internal Rate of Return	4	57%	1	17%
Average Rate of Return	0	0%	0	0%
Net Present Value	2	29%	2	33%
Payback Period	1	14%	3	50%
Benefit/Cost Ratio	0	0%	0	0%
Other	0	0%	0	0%
No Capital-Budgeting Techniques Used	0	0%	0	0%
Total Responses	7	100%	6	100%

The most popular primary capital-budgeting techniques selected were the sophisticated or discounted cash flow methods, such as net present value and internal rate of return. The payback method was selected as a secondary technique. These results are consistent with those reported by Eyster and Geller in their 1981 study and Schmidgall and Damitio in their 1990 study. Table 7 below presents the data from the 1981 and 1990 studies and this current study. The current study's results are more closely aligned to the entire service industry than the 1990 study, although the current study does not conclusively indicate that the hotel casino segment of the hospitality industry is using the available techniques more today than in 1990.

Table 7
Primary and Secondary Capital-Budgeting Techniques in Use as Reported by
Eyster and Geller (1980), Schmidgall and Damitio (1990), and Current Study

Primary and Secondary Capital-Budgeting Techniques in Use	Eyster & Geller 1980	Schmidgall & Damitio 1990	Current Study 1994
Internal Rate of Return	33%	74%	74%
Average Rate of Return	71%	66%	0%
Net Present Value	36%	55%	62%
Payback Period	0%	32%	64%
Benefit/Cost Ratio	0%	0%	0%
Other	0%	0%	0%
No Capital-Budgeting Techniques Used	0%	0%	0%

Risk and Uncertainty

It is generally understood that different levels of risk are associated with different projects. Respondents were provided with two possible risk adjustment procedures, an option to write in a third, and the opportunity to indicate that no risk adjustment procedures are used. The hotel casino companies were asked to select the primary technique used by their firm. Table 8 summarizes the responses. Three firms, or 43% use no risk adjustment procedures, while an equal number readjust cash flows for each project to adjust for risk. The other respondent uses risk adjusted cost of capital. The surprise here was the reporting of three firms (43%) not using any risk adjustment procedures. Schmidgall and Damitio reported that lodging chains were consistent with other firms in accounting for risk (Schmidgall and Damitio, 1990).

Table 8
Risk Adjustment Procedures

Risk Adjustment Procedure	Number	Percent
Risk-Adjusted Cash Flow	3	43%
Risk-Adjusted Cost of Capital	1	14%
Other	0	0%
No Risk Adjustment Procedures Used	3	43%
Total Responses	7	100%

Cost of Capital

The cost of capital for all of the firms in the study was reported as being between 10 and 20 percent. Four of the firms (57%) revise their cost of capital annually, while one reported that its cost of capital is revised monthly. The remaining two companies responding to the survey (29%) have no set revision period and selected the choice "when economic conditions warrant".

Knowledge and Use of Theory

The final question was intended to assess the firm's knowledge and use of eleven financial techniques. A five-point Likert scale was provided, and the respondents were asked to evaluate their knowledge and use of these financial techniques. Table 9 summarizes these responses. Hotel casino firms reported average or above-average knowledge of risk-adjusted discount rates, sensitivity analysis, zero based budgeting, and capital asset pricing model approaches. The firms had below-average knowledge of the other seven techniques.

Sensitivity analysis and risk-adjusted discount rate are the only techniques that are moderately used. The firms responding classified the other nine techniques as being used

less than moderately. Since the firms selected for this study are from a finite group of large companies with extensive capital budgets, the expectation was that the knowledge and use of these financial techniques would be much higher than reported.

Table 9
Knowledge and Use of Various Financial Techniques

Financial Technique	Knowledge*	Use**
Formal Risk Analysis	2.43	2.43
Risk-Adjusted Discount Rate	3.71	3.14
Certainty Equivalents	1.14	1.14
Beta	2.57	1.71
Capital Market Line	1.29	1.29
Security Market Line	1.14	1.14
Sensitivity Analysis	3.71	3.57
Simulation	2.86	2.57
Linear Programming	2.43	1.57
Zero-Based Budgeting	4.00	2.86
Capital Asset Pricing Model	3.14	2.43

- * 1 – No Knowledge
 2 – Limited Knowledge
 3 – Average Knowledge
 4 – Above Average Knowledge
 5 – Very Knowledgeable

- ** 1 – Not Used
 2 – Limited Use
 3 – Moderate Use
 4 – Used Frequently
 5 – Used Extensively

Summary and Conclusions

The purpose of this study was to provide a comparison of the capital-budgeting practices in the hotel casino segment of the hospitality industry with those of the hospitality industry from previous studies. In the area of capital-budgeting statistics, it was reported that the majority of hotel/casino firms had annual capital budgets over \$50 million, as opposed to the less than \$100,000 reported by the majority of firms in previous studies. This allocation of resources to capital projects can be interpreted as an indication of the size of the firms in this survey as compared to the previous research. The size of the planned expenditures also reflects the growth of the gaming segment of the hospitality industry. With capital budgets of this magnitude it was expected that the most sophisticated capital-budgeting practices would be employed.

As far as using capital-budgeting techniques, the firms surveyed indicated that they used the sophisticated discounted cash flow techniques, with internal rate of return being the one most frequently used. However, 43% of the respondents indicated that they do not use any technique to consider risk, other than that already incorporated in the net present value or internal rate of return methods.

When questioned about knowledge and use of theory, this study showed that hotel casino firms are aware of the various techniques available in capital-budgeting. However, this study did not show that this segment of the hospitality industry is using the techniques available to them any more than they did in 1990.

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