Journal of Hospitality Financial Management

The Professional Refereed Journal of the International Association of Hospitality Financial Management Educators

Volume 8 | Issue 1 Article 1

2000

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The Journal of Hospitality Financial Management. Volume 8, Number 1, 2000

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ABSTRACT

The purpose of this study was to determine what capital budgeting and cost of capital procedures are being used in the food service segment of the hospitality industry and to compare the responses, where possible, with those reported in the previous studies of capital budgeting techniques in the hospitality industry. 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.

Introduction

The food service segment of the hospitality industry is rapidly growing. Entry by hospitality industry firms and others into these lines of business is not without risk. It is expected that such expansion will make winners out of the companies that acquire the best locations and create the most innovative facilities. It is also expected that companies lacking 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 food service, which is fixed asset intensive, has required firms specializing in this area to make capital investment decisions. It is therefore important to determine the capital budgeting practices of these firms.

Many studies have been 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 been relatively fewer studies determining the capital expenditure and capital acquisition policies of firms in the hospitality industry. 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. Schmidgall and Damitio (1990) concluded that in 1990, more hospitality industry firms used 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. Atkinson and LeBruto (1997) studied the capital budgeting of casino/gaming firms and found IRR most frequently for their calculations; however, 43% of those responding indicated they used no technique to adjust for risk other than already incorporated in NPV or IRR.

The purpose of this study was to determine what capital budgeting and cost of capital procedures are being used in the food service segment of the hospitality industry and to compare the responses with those reported in the previous studies of capital budgeting techniques in the hospitality industry, where such a comparison was possible. The food service segment is growing rapidly as a result of recent opportunities for growth. Food service operations normally require large investments in capital expenditures. Therefore, the expectation is that these firms would use more sophisticated capital budgeting procedures than the hospitality industry in general and would closer 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 restaurant industry by the Kwik Index of Leading Companies. A questionnaire was mailed to the Top 100 firms listed on the Kwik Index with a stamped return envelope in order to collect the individual responses.

A second mailing was sent three weeks later. A total of 28 responses of the questionnaires were returned with 21 being usable. 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 (1981) mailed questionnaires to 1,071 companies and received 120 responses for a response rate of 11%. The Atkinson and LeBruto (1997) study received only seven usable responses out of the 14 possible respondents. Measured by total assets, the firms in this study are quite large, as shown in Table 1 below. Nineteen of the 21 responding firms have assets greater than $100 million, while the other two responding firms have assets less than $100 million.

Table 1
Asset size of responding firms

Asset Size	**Number**	**Percent**
Less Than $100 Million	2	10%
$100 Million to $500 Million	12	57%
$500 Million to $750 Million	2	10%
Over $750 Million	5	24%
Total Responses	**21**	**100%**

To determine the extent of the capital budgets 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. Seven of the responding firms reported having annual capital budgets in excess of $50 million. Two of the firms reported an annual capital budget of less than $10 million and 12 companies had an annual capital budget between $10 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	2	10%
$10 Million to $20 Million	5	24%
$20 Million to $50 Million	7	33%
Over $50 Million	7	33%
Total Responses	**21**	**100%**

The survey instrument asked the respondents to provide the size of a project that would require a formal analysis. Five firms (24%) indicated that the minimum project size was less than $100,000 to require formal analysis, while one (5%) established a threshold of over $1,000,000 before formal analysis would be required. The remaining fifteen respondents (71%) have established guidelines between $100,000 and $1,000,000. 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. The study by Eyster and Geller (1981) reported significantly lower thresholds of project size to determine whether an analysis was required, which seems to indicate that minimum project sizes requiring formal analysis grew larger between the study dates. Atkinson and LeBruto (1997) found that five firms (71%) had formal analysis on projects of half a million or less.

Table 3
Project size required for formal analysis

Project Size Required for Formal Analysis	**Number**	**Percent**
Less Than $100,000	5	24%
$100,000 to $500,000	13	62%
$500,000 to $1 Million	2	9%
Greater Than $1 Million	1	5%
Total Responses	**21**	**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 10%. Three of the food service companies (14%) accepted projects between 10% and 25% of the time, six of the firms (29%) accepted project between 25% and 50% of the time, and 12 of the firms (57%) accepted more than 50% of the projects analyzed. These high acceptance rates were expected due to the growth of the gaming segment of the industry. Of the previous studies, only Atkinson and LeBruto (1997) measured the acceptance rate. They found that 57% of gaming firms accepted over 50% of their capital budgeting projects.

Table 4
Percent of projects accepted

Percent of Projects Accepted	Number	Percent
Less Than 10%	0	0%
10% to 25%	3	14%
25% to 50%	6	29%
Over 50%	12	57%
Total Responses	**21**	**100%**

Capital Budgeting Procedures

The survey instrument requested the responding firms to 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, 52% (11) indicated that project definition and cash flow estimation was the most difficult stage. Three respondents (14%) indicated that financial analysis and project selection was the most difficult stage of the capital budgeting process. Two firms (10%) selected project implementation as the most difficult stage, and three (14%) selected project review.

As far as the most important stage in the capital budgeting process was concerned, eight respondents (38%) indicated that project definition and cash flow estimation was the most important stage. Five respondents (24%) indicated that financial analysis and project selection was the most important stage of the capital budgeting process.

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	11	52%	8	38%
Financial Analysis and Project Selection	3	14%	5	24%
Project Implementation	2	10%	3	14%
Project Review	3	14%	2	10%
Both 1 & 2	1	5%	0	0%
Both 2 & 3	1	5%	1	5%
Both 2 & 4	0		1	5%
Both 3 & 4	0		1	5%
Total Responses	**21**	**100%**	**21**	**100%**

Capital Budgeting Techniques

One of the purposes of this study was to determine which capital budgeting techniques firms in the food service segment of the hospitality industry use. 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	13	42%	5	21%
Average Rate of Return	1	3%	3	13%
Net Present Value	9	29%	7	29%
Payback Period	3	10%	7	29%
Benefit/Cost Ratio	5	16%	2	8%
Other	0	0%	0	0%
Total Responses	**31**	**100%**	**24**	**100%**

*May have muliple responses

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 of this study are consistent with those reported by Eyster and Geller in their 1981 study, Schmidgall and Damitio in their 1990 study, and Atkinson and LeBruto in 1997. Table 7 below presents the data from the 1981, 1990, and 1997 studies and also this current study.

Table 7
Primary and secondary capital budgeting techniques in use as reported by Eyster and Geller (1981), Schmidgall and Damitio (1990), Atkinson and LeBruto (1997), and current study

Primary and Secondary Capital Budgeting Techniques in Use	Eyster & Geller 1980	Schmidgall & Damitio 1990	Atkinson & LeBruto 1997	Current Study 1998
Internal Rate of Return	33%	74%	74%	86%
Average Rate of Return	71%	66%	0%	19%
Net Present Value	36%	55%	62%	76%
Payback Period	0%	32%	64%	48%
Benefit/Cost Ratio	0%	0%	0%	33%
Other	0%	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 food service companies were asked to select the primary technique used by their firm. Table 8 summarizes the responses. Seven of the 15 responses to this question readjusted cash flows for each project to incorporate risk. Six of the responses use risk-adjusted cost of capital to incorporate risk. The other two firms use both risk-adjusted methods. Schmidgall and Damitio (1990) reported that lodging chains were consistent with other firms in accounting for risk.

Table 8
Risk adjustment procedures

Risk Adjustment Procedure	Number	Percent
Risk-Adjusted Cash Flow	7	47%
Risk-Adjusted Cost of Capital	6	40%
Other	2	13%
No Risk-Adjusted Procedures Used	0	0%
Total Responses	**15**	**100%**

Cost of Capital

The cost of capital for 16 of the firms in the study was reported as being between 10 and 20%. Eleven of the firms (52%) revise their cost of capital annually, while six (29%) reported that their cost of capital is revised when economic conditions warrant.

Knowledge and Use of Theory

The final question was intended to assess the firm's knowledge and use of 11 financial techniques. The respondents were asked to evaluate their knowledge and use of these financial techniques. Table 9 summarizes these responses. Restaurant firms reported average or above average knowledge with risk-adjusted discount rates, sensitivity analysis, zero based budgeting, and capital asset pricing model approaches. The other seven techniques were below average in knowledge.

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	13	4
Risk Adjusted Discount Rate	8	10
Certainty Equivalents	3	0
Beta	7	6
Capital Market Line	3	0
Security Market Line	3	0
Sensitivity Analysis	8	14
Simulation	6	1
Linear Programming	8	3
Zero Based Budgeting	14	14
Capital Asset Pricing Model	11	20

Summary and Conclusions

The purpose of this study was to provide a comparison of the capital budgeting practices in the food service 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 restaurant firms had annual capital budgets over $50 million, as opposed to previous studies where the majority had less than $100,000. 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 food service segment of the hospitality industry. With capital budgets of this magnitude it is 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.

When questioned about knowledge and use of theory, this study showed that 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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