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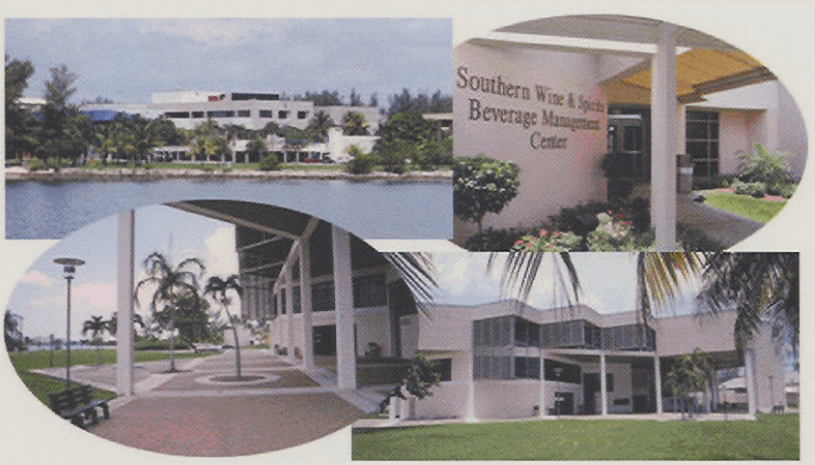


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# FIU Hospitality and Tourism Review

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# Table of Contents

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# A Critical Review of the Implied Cost of Equity: A New Way to Estimate the Expected Return

By Seoki Lee, and Arun Upneja

*For the last three decades, the Capital Asset Pricing Model (CAPM) has been a dominant model to calculate expected return. In early 1990's, Fama and French (1992) developed the Fama and French Three Factor Model by adding two additional factors to the CAPM. However, even with these prevalent models, it has been found that estimates of the expected return are not accurate (Elton,1999; Fama & French, 1997). Botosan (1997) introduced a new approach to estimate the expected return. This approach employs an equity valuation model to calculate the internal rate of return (IRR) which is often called, "implied cost of equity capital" as a proxy of the expected return. This approach has been gaining in popularity among researchers. A critical review of the literature will help inform hospitality researchers regarding the issue and encourage them to implement the new approach into their own studies.*

## Introduction

The importance of equity premium has been well documented in the finance literature. Equity premium, which is the difference between the expected return on risky stocks (expected return, hereafter) and the risk free rate, is considered as one of the most important consepts in finance (Cornell, 1999; Dimson, Marsh & Staunton, 2002). Because the risk free rate is easy to find, even though some arguments still exist, the key factor to compute the equity premium is expected return (or, equivalently, cost of equity). In search for ways to estimate the expected return, Sharpe (1964), Lintner (1965), and Black (1972) made significant contributions by developing the capital asset pricing model (CAPM). CAPM has been the dominant model used to calculate the expected return for the last three decades in the financial community for both academicians and practitioners. However, Fama and French (1992 & 1993) argued that market data alone is not good enough to explain the expected return and included two more factors (size and the book-to-market equity ratio) in the model. This extended model is known as the Fama and French Three Factor model and gained popularity in late 1990's. However, even with these models, it has been found that estimates of the expected return are not accurate (Elton, 1999; Fama & French, 1997).

Botosan (1997) introduced a new approach to estimate the expected return. Her approach employs an equity valuation model to calculate the internal rate of return (IRR) which is often called, "implied cost of equity capital" as a proxy for the expected return. The approach has been investigated extensively by many researchers in recent years. Our study provides a critical review of the literature regarding this newly developed approach. We believe that this critical review will provide valuable knowledge to the hospitality accounting and finance researchers and hopefully encourage them to implement this new approach in their studies.

This paper will discuss the equity premium issue as the first part of the critical review of literature. The CAPM and the Fama and French Three Factor Model will be discussed in the second part and the implied cost of equity capital literature will be extensively reviewed as the final part of the critical review section. Applications to the hospitality literature will be followed and the study will end with our conclusions.

## Review of the Literature

### I. Equity Premium

Equity premium has been one of the most important numbers in financial literature and community (Dimson, et al., 2002). The term is defined as the difference between expected return and the risk free rate (Cornell, 1999). In other words, equity premium is the additional return, on top of the risk free rate, that investors require in order to invest in risky stocks. Two government securities have often been used as a proxy of the risk free rate, the short-term treasury bills and long-term treasury bonds. Among short-term treasury bills, the 1-month

treasury bill is widely used. Among long-term treasury bonds, the 10-year treasury bond is often used in the academic studies, but the 5-, 20- and 30-year treasury bonds are also used. The 1-month treasury bill is considered the better proxy for the risk free rate because the long-term treasury bonds are exposed to inflation risk and therefore, have additional premiums to compensate this risk (Dimson, et al., 2002). Because it is relatively easy to obtain the reliable risk free rate, the critical estimation process comes down to estimating the expected return, equivalently, the cost of equity.

Equity premium is essential to making sound decisions in regard to investment, financing, and saving. Therefore, accurate estimates of equity premium will work for investors, executives, managers, and financial analysts as a reliable and critical tool while inaccurate estimates will work against them. More specifically, estimates of equity premium are used, among others, in the following situations: 1) making asset allocation decisions, 2) making planning decisions for pension funds and retirees, 3) making corporate investment decisions, and 4) for equity valuation purpose. Every investor has to make a decision on how to allocate his or her investment assets among stock, fixed-income securities, and others. One critical decision making component in the asset allocation procedure is expected returns for the competing asset classes. With reliable and accurate information about expected return, an investor can achieve the maximized asset allocation. Equity premium also plays an important role in planning decisions for pension funds and retirees. People who are planning for retirement must estimate their future funds. For fixed-income securities, future funds computation is not complex because the yields are fixed. For stocks, on the other hand, people have to estimate the equity premium to calculate their future funds correctly. In addition, firms that offer defined-benefit retirement plans, have to estimate equity premium to figure out the amount of expected contribution to pension plans. Another fundamental role equity premium plays arises when a corporation makes an investment decision. Most finance textbooks teach that firms should undertake projects with a positive net present value (NPV). NPV calculation requires the opportunity cost (or the required rate of return) which doubles as the discount rate in the computation. Estimation of this discount rate depends on the equity premium. Lastly, equity premium is a crucial determinant in stock valuation process. The equity premium determines the discount rate in stock valuation. *Ceteris paribus*, if the equity premium falls, the stock value rises because the discount rate falls (Cornell, 1999; Dimson, et al., 2002).

The importance of the equity premium is due to its central role in many important financial decision making processes, as mentioned above. Because of the importance of the equity premium, CAPM and the Fama and French Three Factor Model have been developed to estimate it. The following section will discuss these two models.

**II. Capital Asset Pricing Model and Fama & French Three Factor Model**

Sharpe (1964) initially introduced the idea of the capital asset pricing model (CAPM) and later Lintner (1965) and Black (1972) made additional contributions to CAPM. The central idea of the model is that the expected return is positively and proportionally related to market beta ($\beta$) which represents systematic or undiversifiable risk. The CAPM equation is as follows:

$$E(R) - R_f = \beta\left[E(R_m) - R_f\right]$$

where,

$E(R)$: expected return on equity

$R_f$: risk free rate

$E(R_m)$: expected market return

$\beta$: systematic risk

The equity premium is defined as the expected return on equity minus the risk free rate, $[E(R) - R_f]$, and the market premium is defined in the same manner as the expected market return minus the risk free rate, $[E(R_m) - R_f]$ (Brealey & Myers, 2003).

Black, Jensen, and Scholes (1972) and Fama and MacBeth (1973) empirically examined CAPM and found a positive relation between the average realized stock return (as a proxy for the expected return) and the market beta, as predicted by the asset pricing theory. However, as more studies examined the model with later sample periods, the positive relation between the market beta and the average realized stock returns disappeared (Fama & French, 1992; Lakonishock & Shapiro, 1986; Reinganum, 1981). Fama and French (1992, 1993 & 1995) not only investigated the CAPM for the period of 1963 to 1990 and rejected the model, but also introduced two additional factors, size and book-to-market equity, to the model. This new modified model is called the Fama and French Three Factor (FF, here after) Model. The FF model equation is as follows:

$$R_i - R_f = \beta\left[R_m - R_f\right] + s_i SMB + h_i HML + e_i$$

where,

$R_i$ = expected return on equity;

$R_f$ = risk free rate;

$R_m$ = expected market return;

SMB = size (small minus big based on 2 by 3 portfolios);

HML = book-to-market equity (high minus low based on 2 by 3 portfolios).

The FF model gained its popularity and has been used widely among researchers and practitioners in recent years. It is now considered a better model than the CAPM. However, the FF model is not without problems. One of the major issues with the FF model is its lack of theoretical background. While the CAPM is considered the model with a strong theoretical background, the FF model is considered an empirical model without a strong theoretical background. Also, both FF and CAPM are not without other problems.

Fama and French (1997) examined the accuracy of the cost of equity (equivalently, the expected return) estimates computed by using CAPM and the FF model, and concluded that neither model provided precise or reliable estimates for cost of equity at both firm and industry levels. They advanced two main reasons for the inaccuracy. First, they argued that estimates of risk loadings are not accurate. For the CAPM, there is only the market beta and for the FF model, there are three risk loadings including the beta. For both models, historical time-series data should be used to estimate the risk loadings. They found a significant variation through time in the risk loadings for both models. When they compared the two sets of estimates of the beta using the full sample period of 1963 to 1994 data and only the past three years data, they found no differences between the two estimates. In other words, despite the differences in the risk loadings, there was no difference in equity premium.

The second problem resides in inaccurate estimates of risk factors. For the CAPM, there is one risk factor for market premium and, for the FF model there are three risk factors (i.e., market premium, size, and book-to-market equity). Because the expected market premium is not observable, average realized market premium has been used as a proxy by using historical time series data for the both models. Again, the variation of the estimates was found to be significantly large through time. For the full sample period of 1963 to 1994, the mean value is 5.16% with the standard deviation of 2.71%. If we calculate the traditional plus-and-minus-two-standard-error intervals, the estimates below zero are more than 10%. They concluded that the combination of these two problems results in imprecise estimates of the cost of equity.

In a similar fashion, Elton (1999) criticized the use of the average realized return as a proxy for the expected market return in the asset pricing model. He argued that the use of the average realized return as a proxy is based on a belief that the average realized return is an unbiased estimate of the expected market return because over the period of a study, surprising news in the market are likely canceled out. However, he disagreed with this view and provided two major evidences against the belief as followings: 1) during 1973 to 1984 period, the average realized return of the stock market was lower than the risk free rate, and 2) during 1927 to 1981 period, the average performance of risky long-term bonds was lower than the risk free rate. Elton (1999) argued that using the average realized return rate below the risk free rate as a proxy of the expected market return rate does not make sense because the expectation of the market return on risky stocks cannot be lower than the risk free rate. The study concluded that the average realized return seemed a very poor proxy for the expected market return and asserted the need of developing alternative methods for examining asset pricing theories.

As discussed above, Fama and French (1997) and Elton (1999) established a strong sentiment for the need for an alternative way to test the asset pricing theories in the financial economics field and the "implied cost of equity capital" approach was introduced to the finance and accounting literature as a response to the need.

**III. Implied Cost of Equity Capital**

The implied cost of equity capital (in short, implied cost of equity or ICE, hereafter) approach is not new to academic literature. Financial analysts have been using the method for a while and typical finance textbooks explain internal rate of return (IRR) concept which is equivalent to the ICE approach. However, in past, mainstream accounting and finance literature concentrated on using the average realized return as a proxy for the expected market return to test the asset pricing theory until Botosan (1997) introduced the ICE approach to the literature. Soon after Botosan's study, more financial economists started to use the ICE approach and as the approach became more popular in the literature, more comprehensive research on the approach was motivated and conducted.

The ICE approach, as described above, is equivalent to calculating the internal rate of return (IRR). First, an equity valuation model (e.g., residual income model or dividend model) is assumed. Second, current stock price and analysts' short- and long-term earnings forecasts as proxies for all expected future cash flows are introduced into the valuation model. Finally, the internal rate of return that equates the present value of all expected future cash flows to the current stock price is solved. In other words, this internal rate of return is the discount factor that the market implicitly uses for the valuation purpose of the equity.

Financial economists postulated that the ICE approach may be beneficial in testing the asset pricing theory because with this approach, researchers no longer need to use the average realized return, which has been widely criticized for its inaccuracy (Elton, 1999; Fama & French, 1997), as a proxy for the expected market return. On the other hand, the ICE approach may be deficient because the approach uses the analysts' forecasting data. The use of analysts' forecasting data has been investigated by several studies and it is generally concluded that the analysts' forecasting data tend to be overly optimistic and slowly updated (Dechow & Sloan, 1997; Lys & Sohn, 1990). These possible problems may have a negative impact on calculating the accurate estimates of the cost of equity. Guay, Kothari and Shu (2004) examined this timing issue and found that the forecasting data were sluggish in updating. They suggested a remedy for this "sluggishness" and more details about this issue will be discussed in the following section.

The major valuation models described in the following section are further explained in the appendix in a more detailed manner.

## Study-by-Study Review

Because of the short history of the ICE literature, the amount of the literature is limited. Therefore, we will provide extensive and comprehensive discussion of relevant studies in this section.

Botosan (1997) introduced the ICE approach to the financial economics literature by utilizing the approach in examining the impact of the disclosure level on the cost of equity. First, she described three ways to estimate the cost of equity at the firm level: 1) average realized return, 2) the CAPM estimate, and 3) the earnings-to-price ratio adjusted for growth and dividend payout estimate. After she provided general pitfalls and improperness of the three methods for her study purpose, she finally adopted the accounting based valuation model developed by Edwards and Bell (1961), Ohlson (1995) and Feltham and Ohlson (1995), and calculated the internal rate of return as estimates of the expected cost of equity. The study attempted to confirm the validity of the estimates by investigating the relations of the estimates with market beta and size. As theoretically expected, the estimates showed a positive relation with market beta and a negative relation with firm size.

While Botosan (1997) made an important introduction of the ICE approach to the financial economics literature, the reliability of the new estimate had not been comprehensively examined. After Botosan (1997), one group of researchers started implementing the approach as a tool for their studies and the other group started extensively investigating the reliability of the estimate derived from the approach. We focus our review on the literature of the second group because until the reliability of the ICE approach is verified, the use of the approach as a tool may have little meaning.

Claus and Thomas (2001), and Gebhardt, Lee and Swaminathan (2001) explored the ICE approach further with more comprehensive analyses. Claus and Thomas (2001) argued that the Ibbotson Associate estimate for the equity premium (on average eight percent) is too high for recent years even though it has been widely accepted and used in the academic literature. The study used the dividend and the residual income valuation (RIV) models to estimate the implied equity risk premium as a proxy for the unobservable expected equity risk premium for the period of 1985 to 1998 and found that the implied equity premium estimates, especially computed by the RIV model, are considerably lower than the Ibbotson Associate rate. They examined the data from five other countries and found similar outcomes. The overall results showed that the equity premium calculated by the RIV model was as low as three percent while the estimate calculated by the dividend model was closer to the Ibbotson Associate rate. The authors argued that the RIV model provides more accurate estimates than the dividend model for three reasons. First, while the RIV model requires a growth rate assumption for a limited number of valuation components (e.g., components for terminal value calculation) with some fixed components (e.g., current book value and abnormal earnings for years before the terminal period), the dividend model requires a growth rate assumption for all valuation components. In other words, the portion of the equity value computed by assumed growth rates is smaller when employing the RIV model and therefore, the estimates of the risk premium are consequently more reliable than when using the dividend model. Second, the growth rate used in calculating the terminal value in perpetuity is less abstract and easier to measure using economic intuition when employing the RIV model. Lastly, under the RIV model, several value relevant indicators, for example, price-to-book ratios, price-to-earnings ratios, and return on equity, can be derived. Therefore, better understandings of the future financial picture can be obtained under implementations of different growth rates. While Claus and Thomas (2001) provided one of the first detailed examinations on the ICE approach, the study did not conduct any empirical analyses to compare the relative reliability of two sets of estimates from the dividend and RIV models. Superiority of the estimate from the RIV model was assumed logically, but not empirically.

Gebhardt, et al. (2001) performed comprehensive analyses on the ICE approach, but used only the residual income valuation model to calculate the estimates. After estimating the ICE, the study investigated the relation between ICE and 14 firm characteristics representing five risk categories: market volatility, leverage, liquidity and information environment, variability and predictability of earnings, and pricing anomalies. The analyses on the relation were performed first to verify the validity of the estimate as a reliable proxy for the expected return and secondly to identify key variables for the additional forecasting regression tests. Overall results showed that the estimates are valid according to the asset pricing theory with the book-to-market equity being the single most important variable. One of the surprising results was that the relation between the ICE estimate and beta appeared to be negative in a univariate test, but became positive in a multivariate test. However, the positive relation became statistically insignificant when an industry measure was included in the model, which suggests a limited role of the beta in a multivariate test and in an industry specific setting, such as, the hospitality setting. However, this is an empirical question that remains unexamined under the hospitality setting and therefore, it is a possible future study. In performing forecasting regression tests in Gebhardt, et al. (2001), four significant firm characteristics were included: book-to-market equity, dispersion in analysts' forecasts, long-term consensus analyst growth forecast, and industry mean risk premium from the prior year. The study first carried out an yearly regression analysis and found that the four firm characteristics explain from 38% to 70% of the cross-sectional variation in the current year's ICE. Next, the study used the coefficients of the four-variable regression model from the previous year along with inserting the data of the four current firm characteristics into the model to estimate a predicted implied cost of equity. Finally, the study performed a regression analysis by setting the next year's ICE as dependent variable and the implied cost of equity predicted from current year's regression as the independent variable. The results generally indicated that the regression showed a reasonable predictability. This is a good signal for developing a viable cost of equity prediction model and the hospitality researchers are certainly encouraged to make an attempt to develop an industry specific cost of equity prediction model.

While Claus and Thomas (2001) and Gebhardt et al. (2001) made more exclusive and comprehensive evaluation on the ICE approach, no empirical comparisons between the estimates derived from different equity valuation models were examined. There are several well-known and widely used equity valuation models (e.g., dividend, residual income valuation, and Ohlson-Juettner models), and the estimates calculated from using these models differ from each other because the assumptions made in implementing each model differ from each other. Therefore, it is an open empirical question to determine which specific model provides the most reliable estimates among the competing models. Following studies particularly investigated this issue.

Botosan and Plumlee (2002) assessed the construct validity of four alternative proxies for the expected cost of equity capital (r). The four alternative proxies were estimated by using the classic dividend discount model, the Gordon dividend model, Ohlson-Juettner model (Ohlson & Juettner-Nauroth, 2003), and the price-earnings-growth (PEG) model. The study used these four models to estimate the ICE with the data for 1979 to 1993 obtained from the financial publication *Value Line*. They examined the theoretically suggested relationship between the estimates and two risk factors (i.e., market beta by the CAPM and firm size). Based on the CAPM, cost of equity capital is expected to increase as the market beta increases – a positive relationship. Therefore this positive association was examined between the four proxies and the market beta. Berk (1995) suggested that if some unknown risk factors were omitted from the empirical model, there will be a negative relationship between cost of equity capital and size. This argument is dependent on the common notion of a negative association between the firm size and the risk in general. Therefore, if the model does not include all necessary risk factors, some unknown risk factors excluded from this incomplete model will be captured by the firm size variable. This inverse relationship was also examined between the four proxies and the firm

size. Based on these two and some additional tests (i.e., relationship with earnings growth leverage, book-to-price, and price momentum), the study concluded that two alternative proxies estimated by the classic dividend discount model and the price-earnings-growth (PEG) model performed better in representing cost-of-equity capital than the Gordon dividend and Ohlson-Juettner model. This study is slightly different from other studies in using the *Value Line* forecasting data while others usually use I/B/E/S data. In addition, this study did not evaluate the residual income valuation model which has been empirically suggested as the best model to calculate the ICE by the majority of other studies. For the hospitality accounting and finance literature, limited data is one of the major problems. It is not clear that which database, in this case I/B/E/S or *Value Line*, provides more and better information for the hospitality industry and it will be worthwhile to investigate the issue.

Gode and Mohanram (2003) used three equity valuation models, Ohlson-Juettner (OJ) and two versions of residual income valuation (RIV) models, to estimate the implied risk premium (RP) as a proxy for the expected risk premium. The first version of RIV (hence forth RIV1) is as implemented in Gebhardt et al. (2001) and the second version (hence forth RIV2) is as in Liu et al. (2002). The study conducted three relation tests to perform their comparison: 1) relation between the implied RP and several risk factors, 2) relation between the implied RP and predicted implied RP by using the prior year's regression coefficients, and 3) relation between the implied RP and realized subsequent RP. The risk factors examined were beta, unsystematic risk, earnings variability, leverage, and size, and the both OJ and RIV1 models appeared to have valid relationships with these risk factors. In the second relation test, the RIV1 model outperformed the OJ model by relatively big difference. However, the study still argued that the OJ model presented its usefulness in forecasting regression setting. The results of the third test showed that the RIV1 model performed better in predicting one- and two-year realized RP than the OJ model and the both models performed well in predicting three-year realized RP. The study generally concluded that the OJ model performed relatively well when we consider possible limitations of the model assumptions, such as, in the OJ model, book values and industry profitability are not assumed. Additionally, the study suggested that we should exclude loss firms when calculating the industry median ROE to make improvements on the RIV estimates although further investigation is necessary. In spite of the general conclusions made by the study, the overall results presented that the RIV1 model outperformed the OJ model and therefore the RIV1 model should be implemented whenever possible. The study also exhibited comprehensive relation tests to evaluate the relative reliability of the ICE estimates and these three methods, at least, should be considered and implemented when evaluating the estimates in future studies.

Easton and Monahan (2003) employed a different method to evaluate the relative reliability of the ICE estimates. Vuolteenaho (2002) proposed a model that the realized return consists of three components; expected return, cash flow news and return news. Cash flow news represent changes in expectations about future cash flows and return news represent changes in expectations about future return rates. Subtraction of the return news from the sum of expected return and cash flow news results in realized return. In performing a regression analysis based on this model, if the estimated coefficients are different from one, the difference represents measurement error in the components. By applying the econometric methods presented by Garber and Klepper (1980) and Barth (1991), these differences can be used to compute the measurement error variances. The study subsequently used the measurement error variances to evaluate the relative reliability of the ICE estimates. Six equity valuation models were applied to estimate the ICE and those six estimates were empirically compared for superiority in representing the expected cost of equity. General results revealed that the estimate by the simplest price-to-forward earnings (PFE) model performed at least as good as the other more complicated valuation models. Residual income model as implemented in Gebhardt, et al. (2001) performed the best among the more complicated models. Although this study differed from

other studies in the method it adopted to evaluate the estimates, the conclusions were no different. Even though the study concluded that the simplest model, the PFE model, performed at least as good as the other more complicated valuation models, the residual income valuation model performed as good as or sometimes better than the PFE model. The study seemed to make an emphasis on the PFE model in its conclusion because it is the simplest model, but in overall the results suggested that the residual income model is still one of the best models.

There are two studies that expanded the examination of the ICE estimates to the international setting (Shröder, 2004; Chen, Jorgensen, & Yoo, 2004). Schröder (2004) adopted two different versions for each of two leading equity valuation models (i.e., dividend model and residual income valuation model) to estimate the ICE. The study was conducted with a sample of European companies for 2003. The two versions differ in how many stages the model assumes. The study used "two-stage" and "three-stage" formula. The two-stage formula consists of growth period and stable growth period, while the three-stage formula includes an additional transition period. These two different versions applied to each of the two equity valuation models and as a result, the four different sets of ICE were estimated. To determine the relative reliability of the estimates, the study examined relation between each of the four estimates and several factors including market beta, standard deviation of monthly stock returns over the last 60 months, book-to-market equity, firm size, dividend yield, and price-earnings ratio. In general, the study results suggested that the dividend models performed better than the residual income valuation models. In addition to the relation test, the estimates were regressed on actual subsequent realized stock returns of each of following four quarters to investigate the predicting power. Again, the dividend models performed better than the residual income models in forecasting regressions. This result is inconsistent with most other study results concluding the residual income valuation model as the best model (Claus & Thomas, 2001; Guay et al., 2004; Easton & Monahan, 2003; Chen et al., 2004). However, two things should be mentioned. First, the study sample was European companies, not U.S. companies. Therefore, the results may not be generalizable to U.S. companies. Second, the study used the data collected as of 18 March 2003 reflecting only one point of time. This is a big limitation of the study because with the limited sample period, the study suffers from the generalizability problem not only to U.S. companies in general, but also even to European samples for other times.

Chen et al. (2004) is the other international study evaluating the relative reliability of the ICE estimates calculated by using two different valuation models – residual income valuation (RIV) model and Ohlson-Juettner (OJ) model – in seven developed countries. The study proposed that the RIV model would provide better estimates in the countries where the clean surplus relation holds well while the OJ model would provide better estimates in the countries where the clean surplus relation does not hold well. This proposal was made because the clean surplus is the required assumption to convert the dividend model into the RIV model while the OJ model relaxed this assumption. First, the study measured the ex post deviations for each country by the difference between the comprehensive income and the net income scaled by the book value of equity to determine the level of the clean surplus relation. The analyses suggested that the clean surplus relation held better in U.S., Japan, Australia and Canada and less in the European countries (i.e., U.K., France and Germany). The study performed the relation test between the ICE estimates and five risk factors (market beta, market value of equity, debt-to-market ratio, dispersion of analyst earnings forecasts, and idiosyncratic risk) to evaluate the relative reliability of the estimates. The study concluded that the results supported its proposal by showing that the estimates by the RIV model in general worked better in the countries where the clean surplus held well and the estimates by the OJ model in general worked better than or equally well with the estimates by the RIV model in the countries where the clean surplus held less well. However, the residual income model again in this study presented its ability to provide the reliable estimates by showing that its estimates were often as good as the OJ model estimates even in the European samples.

Shröder (2004) and Chen, et al. (2004) provided possible issues we should consider regarding the ICE approach in an international setting. Because of increasing internationalization of business, it is important to study the cost of capital issues in an international setting. However data limitation will be a major issue especially for the hospitality industry.

Guay, et al. (2004), one of the most recent studies, compared the estimates of the cost of equity from five different models. Four of these five estimates were calculated by the ICE approaches and the last estimate was by the Fama and French three factor (FF) model. Four equity valuation models for the ICE approach are: 1) residual income valuation model as implemented in Gebhardt, et al. (2001), 2) residual income valuation model as implemented in Claus and Thomas (2001), 3) finite horizon Gordon model, and 4) Ohlson-Juettner (OJ) model as implemented in Gode and Mohanram (2003). Inconsistent with most other studies, Guay, et al. (2004) employed the method that analyzed the relation between the ICE estimates and the subsequent realized return as their main and sole methodology to evaluate the relative reliability of the estimates because according to a theory, the current cost of equity should have a positive relation with the subsequent realized return. The study results on both firm and industry levels indicated that all five estimates did not appear to have any significant relation with the subsequent realized return. The study made arguments on why the ICE estimates could be imprecise by providing three possible reasons. First, because the study had to use the forecasting data from I/B/E/S, the only available sample period was for 19 years from 1982 to 2000. The period was relatively short and therefore provided only limited power with a small sample size. Second, several assumptions are necessary in implementing an equity valuation model to estimate the ICE, for example, the growth rates applying to several different stages. These assumptions inevitably contain errors and subsequently the estimates calculated by the valuation models are imprecise. Third, forecasting data used in estimation process may not be updated on a timely basis. This possible "sluggishness" could result in a biased estimate. The first two potential problems could not be examined further by the study because the nature of the problems precludes easy solutions. However, the last problem, the "sluggishness" in analysts' forecasting data, was further investigated and the study proposed a remedy for this problem. Additional analysis revealed that the bias resulted from the sluggishness was associated with recent stock performance. Therefore, the study included the recent stock performance in the regression analysis to control for the bias and found that the overall performance of the ICE estimates improved. Among the estimates from the four valuation models, the RIV model estimate performed the best. The results also showed that the FF model estimates are imprecise as suggested by Fama and French (1997). The error in analysts' forecasting data is one of the major bias sources in implementation of the ICE approach. Future studies in this field should therefore consider the remedy suggested by Guay, et al. (2004) to deal with this bias, if not developing additional alternative methods.

## Applications to the Hospitality Industry

All of the studies discussed in the preceding review section are from the mainstream accounting and finance literature. The ICE approach has never been introduced to the hospitality literature. Our critical review of the ICE approach is to not only provide information to the hospitality researchers but also to encourage researchers to implement the approach in their own studies in the hospitality field. We believe that the ICE approach will open a new research topic area to hospitality academicians and we propose two main applications here.

First, the hospitality research can explore which equity valuation model estimate works best in the hospitality setting. The hospitality industry includes several subset industries, such as, lodging, restaurants, airline, and recreation. It would be clearly beneficial to investigate each subset industry individually, given data availability, because each subset industries presents unique characteristics from each other. In evaluating the relative reliability of the different ICE

estimates, the comprehensive methods used by other researchers and described in the critical review section of this paper should be employed. Three main methodologies that have been performed and are widely accepted. They are: 1) relation test between the ICE estimates and risk factors, 2) relation test between the ICE estimates and the subsequent realized stock return, and 3) relation test between the ICE estimates and the predicted implied cost of equity estimates by using the prior year's implied cost of equity regression coefficients. In addition to these three main methods, we should always attempt to reduce any bias rooted from the error in the analysts' forecasting data as discussed in reviewing the Guay, et al. (2004) study.

Second, if we identify which model provides the best estimate for the hospitality industry, then we can use that particular model to estimate the ICE as a proxy for the expected cost of equity and use it as one of our studies' main variables like some studies in financial economics literature (Botosan, 1997; Cheng, Collins, & Huang, 2003; Dhaliwal, Krull, Li, & Moser, 2004; Hail, & Leuz, 2004; Hribar, & Jenkins, 2004; Lee, & Ng, 2003; Mikhail, Walther, & Willis, 2004; Wang, & Jagannathan, 2004). For example, Botosan (1997) examined the relation between the disclosure level and the cost of equity. The study used the ICE approach to estimate the cost of equity, one of the main variables for the investigation.

If the proxy we have used for the expected cost of equity in past is imprecise, the results derived from the previous studies may not be valid either. Consequently, more research regarding the cost of equity issue is encouraged. This new research might be conducted by implementing the ICE approach. Possible topics can be explored in areas, such as, capital structure, budgeting, disclosure level, multi-national issue, corporate investment decision, and equity valuation.

## Conclusion

The implied cost of equity (ICE) approach is a relatively new method and has never been introduced to the hospitality literature. In this paper, we provide the critical review of the literature of the ICE approach along with relevant comments and possible applications for the hospitality industry. We believe that the approach will provide a good way to estimate the expected return (or cost of equity) and encourage the hospitality researchers to implement the approach for their studies. There are many opportunities in this area and we hope that this approach will enrich the hospitality literature.

## Appendix

### Valuation Models

*The Residual Income Valuation Model [as implemented in Gebhardt, et al. (2001)]:*

$$P_0 = B_0 + \sum_{t=1}^{3} \frac{FROE_t - r_e}{(1+r_e)^t} B_{t-1} + TV,$$

$$TV = \sum_{t=4}^{11} \frac{FROE_t - r_e}{(1+r_e)^t} B_{t-1} + \frac{FROE_{12} - r_e}{r_e (1+r_e)^{11}} B_{11}$$

where,

$P_0$ = current share price at year 0

$B_0$ = book value from the most recent financial statement divided by the number of shares outstanding in the current month

$r_e$ = cost of equity or, equivalently, shareholders' expected rate of return

$FROE_t$ = forecasted return on equity (*ROE*) at time $t$. For the first three years, I compute this variable as $FEPS_t / B_{t-1}$, where $FEPS_t$ is the I/B/E/S mean forecasted *EPS* for year $t$ and $B_{t-1}$ is the book value per share for year $t-1$. Beyond the third year, I forecast *FROE* using a linear interpolation to the industry median *ROE*.

$B_t = B_{t-1} + FEPS_t - FDPS_t$, where $FDPS_t$ is the forecasted dividend per share at time $t$, estimated using the current dividend payout ratio ($k_{DIV}$). Specifically, it is assumed that $FDPS_t = FEPS_t * k_{DIV}$.

*The Residual Income Valuation Model [as implemented in Claus and Thomas (2001)]:*

$$P_0 = B_0 + \sum_{t=1}^{5} \frac{ae_t}{(1+r_e)^t} + TV, \quad TV = \frac{ae_5 (1 + g_{\text{inf}lation})}{(r_e - g_{\text{inf}lation})(1+r_e)^5}$$

where,

$P_0$ = current share price at year 0

$e_t$ = earnings forecast at year $t$

$B_0$ = book value from the most recent financial statement divided by the number of shares outstanding in the current month

$ae_t = e_t - r_e(B_{t-1})$ = expected abnormal earnings at year $t$, or forecast accounting earnings less a charge for the cost of equity

$r_e$ = cost of equity or, equivalently, shareholders' expected rate of return

$g_{\text{inf}lation}$ = perpetual growth rate beyond year 5, equal to the inflation rate, (= $r_f - 3\%$)

$r_f$ = risk free rate (10-year Treasury bond rate)

*The Two-Stage Dividend Model [as implemented in Shröder (2004)]:*

$$P_0 = \sum_{t=1}^{5} \frac{FDPS_t}{(1+r_e)^t} + \frac{EDPS_5(1+g_{GDP})}{(r_e - g_{GDP})(1+r_e)^5}$$

*The Three-Stage Dividend Model [as implemented in Shröder (2004)]:*

$$P_0 = \sum_{t=1}^{5} \frac{FDPS_t}{(1+r_e)^t} + \sum_{t=6}^{20} \frac{FDPS_t}{(1+r_e)^t} + \frac{FDPS_{20}(1+g_{GDP})}{(r_e - g_{GDP})(1+r_e)^5}$$

where,

$P_0$ = current share price at year 0

$FDPS_t$ = forecasted dividends per share at the end of year $t$

$r_e$ = cost of equity or, equivalently, shareholders' expected rate of return

$g_{GDP}$ = perpetual growth rate beyond year 5, equal to long-term GDP growth rate

*The Ohlson-Juettner (OJ) Model [as implemented in Gode & Mohanram (2003)]:*

$$P_0 = \frac{FEPS_1}{r_e} + \frac{[FEPS_2 - FEPS_1 - r_e(FEPS_1 - FDPS_1)]}{r_e(r_e - g_{\text{inf}lation})}$$

where,

$P_0$ = current share price at year 0

$FEPS_t$ = forecasted *EPS* at year $t$

$FDPS_1$ = forecasted dividends per share, at the end of year 1

$r_e$ = cost of equity or, equivalently, shareholders' expected rate of return

$g_{\text{inf}lation}$ = perpetual growth rate beyond year 5, equal to the inflation rate, (= $r_f - 3\%$)

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# Club Medic

By Marvin Cetron and Frederick J. DeMicco

*For most of us, getting sick is a good way to ruin a vacation. However, for growing numbers of people, needing to see the doctor is the whole point of going abroad. When they require surgery or dental work, they may combine treatment with a trip to the Taj Mahal, a photo safari on the African veldt, or a stay at a luxury hotel—or at a hospital that feels like one—all at bargain-basement prices. This is medical tourism, and it is one of the hottest niche markets in the hospitality industry.*

## Introduction

Medical tourists have good cause to seek out care far from home. In some regions, state-of-the-art medical facilities are hard to come by, if they exist at all. For that reason, patients throughout the Middle East are traveling to Jordan or Asia for complicated surgery.

In other countries, the public health care system is so overburdened that it can take years to get needed care. In Britain or Canada, the waiting list for a hip replacement can be a year or more long. And as Dr. Prathap Reddy, the Boston-trained founder of the Apollo Hospitals chain in India, comments, "If you wait six months for a heart bypass, you may not need it anymore." In Bangkok or Bangalore, you can be in the operating room the morning after you get off the plane.

But for most people, the real attraction is price. The cost of surgery in India, Thailand, or South Africa can be one-tenth of rates in the United States or Western Europe, and sometimes even less. A heart-valve replacement that would cost $200,000 or more in the U.S. goes for $10,000 in India, including round-trip air fare and a brief vacation; a metal-free dental bridge worth $5,500 in the States costs $500. In Thailand, a knee replacement with six days of physical therapy costs about $5,000, one-fifth the American price; Lasik eye surgery worth $3,700 is available for only $730. And a full facelift that would cost $20,000 in the U.S. runs about $1,250 in South Africa.

Inferior medical care would not be worth having at any price, and some skeptics warn that Third-World surgery cannot be as good as that available in the United States. In fact, there have been cases of botched plastic surgery, particularly from Mexican clinics in the days before anyone figured out what a gold mine cheap, high-quality care could be for the developing countries. Of course, botched surgery occurs in the United States as well!

Yet, the hospitals and clinics that cater to the tourist market often are among the best in the world. Many are staffed by physicians trained at major medical centers in America and Europe. Bangkok's Bumrungrad hospital has over 200 surgeons who are board-certified in the United States. One of Singapore's major hospitals is a branch of the prestigious Johns Hopkins University, in Bethesda, MD. In a field where experience is as important as technology, Escorts Heart Institute and Research Center, in Delhi and Faridabad, carries out nearly 15,000 heart operations every year. Its death rate among patients during surgery is only 0.8 percent, less than half that of most major hospitals in the United States.

In some areas, these clinics are backed by sophisticated research infrastructures. India is one of the world's leading centers for biotechnology research, while both India and South Korea are pushing ahead with stem cell research at a level approached only in Britain.

Skilled doctors and state-of-the-art equipment are not the only benefits offered by medical centers specializing in foreign patients. In many, the doctors are supported by more registered nurses per patient than any Western facility could offer. Some facilities provide single-patient rooms that look more like a four-star hotel, with a nurse dedicated to each patient 24 hours a day. Some assign patients a personal assistant for the post-hospital recovery period. There is always the chance for a quick vacation, before or after surgery, to sweeten the deal. And

many of the Asian national airlines offer frequent-flyer miles to ease the cost of returning for follow-up visits.

Under the circumstances, it is no surprise that the medical tourism market is growing rapidly. Ten years ago, it was hardly large enough to be noticed. Today, something over 250,000 patients per year visit Singapore alone; nearly half arrive from the Middle East. Perhaps half a million annually travel to India for medical care; in 2002, it was only 150,000. McKinsey, the consulting firm, estimates that medical tourism could bring India as much as $2.2 billion per year by 2012. Argentina, Costa Rica, Cuba, Jamaica, South Africa, Jordan, Malaysia, Hungary, Latvia, and Estonia all have broken into this lucrative market or are trying to do so, and it seems that a few more countries join the list every year.

Some important trends guarantee that the market for medical tourism will continue to expand in the years ahead. By 2015, the health of the vast Baby Boom generation will have begun its slow, final decline. There are something over 70 million Boomers in the United States, over 150 million in all when Canada, Europe, Australia, and New Zealand are taken into account. They represent an overwhelming market for inexpensive, high quality medical care.

Medical tourism will be particularly attractive in the United States, where an estimated 43 million people are without health insurance and perhaps 120 million lack dental coverage. The number of uninsured or underinsured Americans is likely to grow quickly, as many companies cut back or eliminate their medical and pension programs. Baby Boom workers who find themselves with little or no health care coverage will welcome any chance to cut the cost of care. Patients in Britain, Canada, and other countries with long waiting lists for major surgery will be just as eager to take advantage of care immediately available a plane-flight from home.

**Here are the largest players in the global medical tourism industry**

Thailand got its start in medical tourism in 1997, when the economic crash that hammered much of Asia sent canny healthcare providers looking for new markets. Today, it is the largest and best-established destination for foreign patients, particularly from the Japan and the United States. Some 1.2 million Japanese visited Thailand in 2004.

Major centers for medical tourism are Bangkok and Phuket. No fewer than six medical facilities in Bangkok have hospital accreditation from the United States. Bumrungrad Hospital alone sees 850,000 patients per year, 40 percent of them from abroad. As in most tourist-oriented medical communities, the major attractions are cosmetic surgery and dental treatments. However, eye surgery, kidney dialysis, and organ transplantation all are among the most common specialties sought by medical vacationers in Thailand. When not pinned down by medical treatments or recovery, patients usually spend their time shopping or in local sight-seeing.

Yet, for vacation possibilities Phuket is clearly your destination. With some of the most spectacular beaches and shorefront scenery on the planet. The mess left by last December's tsunami has been cleared, and the beaches reportedly are cleaner than at any time in a decade. For a few patients, Phuket has another attraction as well: In all the world, Bangkok Phuket Hospital probably is the place to go for sex-change surgery. In fact, that is one of the top ten procedures for which patients visit Thailand.

India is a relative newcomer to medical tourism, but it is quickly catching up to Thailand. Just two years ago, McKinsey predicted that the number of foreign patients seeking care in India would grow by 15 percent per year. The most recent estimates say the growth rate is already 30 percent.

It helps a lot that English is one of the many native languages in India, and the one spoken by all educated Indians, but there are other reasons for this country's popularity among medical tourists.

An obvious one is the cost of care, which for many procedures is the lowest in the world. Trips for follow-up care also are relatively cheap, because Air India subsidizes them with frequent flyer miles.

Another is the range of high-level services available in such a large, technologically advanced country. There are top-notch centers for open heart surgery, pediatric heart surgery, hip and knee replacement, cosmetic surgery, dentistry, bone marrow transplants, cancer therapy, and just about any other specialty a patient could need.

Many of those centers are among the best in the world. Virtually all are equipped with the latest electronic and medical diagnostic equipment—and India, unlike virtually any of its competitors in this market, has the technological sophistication and infrastructure to maintain it. Additionally, Indian pharmaceuticals meet the stringent requirements of the U.S. Food and Drug Administration, while its quality of care also is up to American standards. Most also provide accommodations that could be mistaken for five-star hotels.

Some Indian medical centers even provide services that are uncommon elsewhere. For example, instead of having the entire hip joint replaced, patients can undergo "hip resurfacing," in which damaged bone is scraped away and replaced with chrome alloy. The result is a smoothly functioning joint with less trauma and recovery time than total replacement, and at lower cost. The operation is well tested and highly successful, but has not yet been approved in the United States.

Unlike some of its competitors, India offers a high degree of transparency. Visitors need not worry about unexpected problems with their funds or legal status.

Of course, before surgery or after, India has a broad array of unique and exotic destinations for Western tourists. From a peaceful tour of the Taj Mahal to a half-day safari in the White Tiger-Bandhavgarh National Park, shopping for handicrafts in the tribal villages of Orissa and Madhya Pradesh, or skin-diving in the Indian Ocean, this 4,000 year-old civilization has something to offer for anyone who visits.

Costa Rica has ecological wonders found in few other lands, from some of the largest, best protected rain forests in Central America to the fire show of the Arenal Volcano. And for those of more urban tastes, the casinos of San Jose, Puntarenas, and Guanacaste provide all the action even a jaded Las Vegas regular could ever want.

But for North American patients, what Costa Rica really offers is inexpensive, high-quality medical care in their back yard. For plastic surgery, prices average roughly one-third those in the United States—not the prices they would find in India or Thailand, but a lot closer to home for medical vacationers with limited travel budgets.

Cosmetic surgery and dental work are clearly the specialties here. Get a facelift, and chill on the beach until the bruises go away, and the folks at home will never quite be sure why you suddenly look so good.

South Africa is the place to go for sun, surf, and surgery within easy reach of lions, elephants, or just the beaches of the Sunshine Coast. South African surgeons tend to be academically sound, but conservative, so this probably is not the best choice for the latest breakthrough in neurosurgery. Heart bypasses and joint replacements are available, but nearly all the medical tourists who visit South Africa come for cosmetic surgery. And at that, the many clinics in and around Cape Town excel. Most provide a personal assistant or frequent visits by a trained therapist to help out during the recovery, and trips to a top beauty parlor to help patients get the best from their new look. Nearly all medical tour packages include the medical procedure, post-op care in a luxury hotel or guest house, and a safari or other vacation before or after the operation. Because the South African rand is so cheap on the world's foreign-exchange markets, prices tend to be lower than in some other destinations.

In addition to these major centers, half a dozen other countries have significant parts of the medical tourism market, while still others are breaking into the field.

Argentina is the fifth-most popular destination in the world for plastic surgery, and the number of medical visitors there is expected to grow by 50 percent in the next two years.

Cuba is resurrecting its once-renowned medical facilities in an effort to attract medical tourist dollars. Cosmetic surgery, eye care, and a well-regarded women's hospital all are among the attractions.

Hungary is drawing visitors from Western Europe, and growing numbers from the U.S., for high quality plastic surgery and dental care at prices that can be as little as half those in nearby Germany and 30 to 60 percent of American rates.

Iran (believe it or not) has been eyeing the success of Jordan in attracting medical tourists from other parts of the Middle East and has set its sights on pulling in patients for cardiovascular and orthopedic surgery, dentistry, organ transplants, and even psychiatric care. Given their share of the general tourist market—virtually none—their prospects for success appear limited.

A better bet is Dubai, already known as a luxury vacation paradise on the Red Sea. Dubai Healthcare City, scheduled to open by 2010, will be the largest international medical center between Europe and Southeast Asia. With a new branch of the Harvard Medical School on site, it may also be the most prestigious.

Malaysia offers advanced care at low prices in a variety of specialties. However, its efforts to develop medical tourism have been handicapped by an acute shortage of doctors and technicians.

The Philippines are still an undeveloped land as far as medical tourism goes, but that may not remain true for long. Bangkok's Bumrungrad Hospital recently made a major investment in the Asian Hospital and Medical Center, outside Manila, where it hopes to clone its own success in attracting vacationing patients.

The future of such overseas medical procedures is clear; more and more people will consider treatment in foreign destinations.

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# Service Quality and Black Customer Satisfaction – A Perspective on the United States Restaurant Industry

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*This paper examines the issue of racial discrimination of Black United States (U.S.) restaurant patrons from a service quality and customer satisfaction perspective. In spite of the progress the industry has made in recent years to alleviate this problem, many contemporary examples clearly demonstrate that racial discrimination is still of great concern. The article stresses the importance of an ethical approach in human resource management-intensive and offers suggestion for reducing discriminatory practices in U.S. restaurant service delivery.*

## Introduction

This paper examines the issue of racial discrimination of Black United States (U.S.) restaurant patrons from a service quality and customer satisfaction perspective. In spite of the progress that the industry has made in recent years to alleviate this problem, it is apparent that racial discrimination still exists in the U.S. restaurant industry. Herein, the term "Black", rather than "African-American", is deliberately used to emphasize that patrons 'of color' are routinely subjected to such practices simply because of their perceived racial background. Varying shades of "black" skin, while clearly a hallmark of African-Americans (i.e., "[Americans] of African and especially of black African descent"), are also common to a host of U.S. restaurant diners who are not American citizens, as well as consumers who are not members of the Negroid race (Merriam-Webster's 2001).[1] With this distinction in mind, the paper begins with a brief overview of service quality and customer satisfaction from the services marketing and hospitality literature. It then turns to a discussion of recent examples of incidents involving racial discrimination in U.S. restaurants. Finally, by taking a service quality approach, it explores possible solutions that can help restaurant operators to alleviate these discriminatory practices.

### Service Quality Concepts

Service quality is conceived of as the difference between a customer's expectations and perceptions of a service (Gronroos, 1984). The evaluation of service quality focuses expressly on key service dimensions, as identified in the pioneering work of Parasuraman, Zeithaml and Berry, 1988. Their research developed the Gaps Model of Service Quality as an organizing framework to understand and diagnose service quality problems. From the customers' vantage point, service quality is a focused assessment that reveals their views of service elements, including interaction quality, physical environment quality, and outcome quality. These elements are appraised using five specific service quality dimensions: reliability; assurance; responsiveness; empathy; and, tangibles.

Reliability is a firm's ability to execute promised services dependably and correctly; responsiveness is the employees' readiness to assist guests and provide prompt and efficient service; assurance is the service staffs' knowledge, professionalism, and ability to engender trust and confidence; empathy is the individualized, caring attention given to customers; and, tangibles are the physical facilities, equipment, employee costumes, and written materials that are present in the service environment (Parasuraman, Zeithaml and Berry, 1985).

Titz (2001) submits that "service is useful labor that does not produce a tangible commodity". Although addressing guests' needs and expectations is absolutely essential to the service delivery process, the extent to which the service provider has succeeded in this regard is often not immediately clear. "Our customers...may ultimately tell us that quality service is not a 'what' but a feeling;" and, while "it is difficult to evaluate a feeling...the service encounter has tangible artifacts that we can evaluate" (Titz, 2001). The point is that customers may not know what service looks like or what it takes to bring it together, but they know what it feels like when they experience it. Though guests may not always be able to completely articulate service outcomes, these perceived outcomes play an important role in customer satisfaction and ought

to be gauged. (Titz, 2001) While service itself is not a concrete and easily measured concept, it is nevertheless quantifiable as an assessment of its more distinctive elements—reliability, assurance, responsiveness, empathy, and tangibles. In the literature, this measurement has generally been accomplished using the SERVQUAL instrument, first developed by Parasuraman, Zeithaml, and Berry, or one of its subsequent derivatives.

O'Neill presents a customer-perceived definition of service quality in which an organization supplies goods or services to a specification that satisfies guests' needs (2001). Thus, he indicates that service quality is a customer issue, regardless of what the service provider thinks; if a patron is not satisfied, the service provider has failed (O'Neill, 2001). Bigelow (2003) notes that a firm's perception of its service may not match that of its customers. He recommends that managers initiate several steps, including taking all of their 'competent' service staff and talking with customers and suppliers, then asking the customers what they need, want and value, and how they define 'service'. Bigelow characterizes this as a simple step, but one that must be accomplished at all levels of an organization when dealing with existing or perspective customers. Successful service providers employ various forms of information gathering to truly ascertain patrons' needs and desires and determine whether their efforts are effective from the customers' viewpoints.

**Customer Satisfaction Distinguished from Service Quality**

Service quality and customer satisfaction are often used interchangeably by practitioners because both are evaluation variables relating to consumers' perceptions about a given product or service. However, service quality differs from satisfaction. Satisfaction is a cognitive evaluation by a consumer, whereas objective attributes are used to assess quality. In the literature, satisfaction is generally regarded as the broader of the two constructs, with service quality serving as a component of customer satisfaction. (Oliver, 1994) Thus, the perception of service quality affects a guest's feeling of satisfaction, which will then affect his or her loyalty and future purchasing decisions (Knutson 2001). While satisfaction can result from many aspects of an organization, whether quality related or not, service quality perceptions are specifically related to quality attributes or dimensions. However, both service quality and satisfaction are vital in helping guests frame their future purchase intentions (Zeithaml and Bitner, 2003).

According to Oliver, satisfaction is the customer's fulfillment response and is more experiential in nature than service quality. He states that satisfaction is a consumer's judgment that a product or service feature, or the product or service itself, provides a pleasurable level of consumption-related fulfillment. This judgment is not a static one, but is a dynamic, moving target that may evolve over time. Zeithaml and Bitner state that satisfaction is the customers' evaluation of a product or service in terms of whether that product or service has met their needs and expectations. Thus, in order for customers to be satisfied, they must be fulfilled, and some aspect of an offered product or service must supply guests with a desirable amount of pleasure.

In the case of pure services, service quality will be the dominant element in customers' evaluations (Zeithaml and Bitner, 2003). Because services have unique features that make them distinctive from physical products, including intangibility, heterogeneity, inseparability of production and consumption, and perishability, consumers' assessments of services tend mainly to be a function of their experiences during the exchange process. Services researchers have suggested that consumers judge the quality of services based on their perceptions of the technical outcome provided, the process by which that outcome was delivered, and the quality of the physical surroundings where the service is delivered (Gronroos, 1984; Zeithaml and Bitner, 2003). Therefore, rather than merely ensuring that customers are satisfied with the physical features of a product, service providers must make certain that customers receive what they wanted and expected, are served expeditiously and treated appropriately by service personnel, and are content with the service landscape that is provided.

Consumers initially anticipate a certain level of service and ultimately must perceive that their minimum requirements have been met. A firm's failure to meet needs and expectations is assumed to result in *dissatisfaction* with the product or service. Service providers seek to avoid customer dissatisfaction and the corresponding business consequences. Because the assessment of customer satisfaction is fluid, companies must continually expend effort to provide consumers with pleasing experiences. Customer satisfaction is influenced by specific product or service features and also by perceptions of quality. However, guest satisfaction is also influenced by customers' emotional responses, their attributions, and their perceptions of quality. Therefore, constant evaluation of the specific aspects of proffered products or services and the service delivery process can help ensure that service providers will fulfill consumers' needs (Zeithaml and Bitner, 2003). Clearly, a company should work to consistently satisfy its patrons in order to maintain a solid customer base and increase its profit levels.

According to Schlossberg (1990), marketing research professionals typically define customer satisfaction as the ability to serve patrons well and to maintain business relationships. The underlying assumption is that satisfied customers will translate into repeat business. Creating a proactive customer satisfaction environment requires that management knows customers' perceptions of quality in terms of what is important to them, then translates this knowledge into priorities and a database for management to use to increase customer satisfaction. Managers must view customer satisfaction management as a permanent process. In fact, a company must evaluate its whole organization because all employees contribute to maintaining customer satisfaction, and everyone must see their role in this regard (Schlossberg 1990). Constantly satisfying consumers requires understanding what they value and using this information to prepare corporate processes and personnel at every organizational level to deliver accordingly. With this perspective in mind, the paper turns next to a discussion of recent incidents involving racial discrimination in U.S. restaurants, and how adopting a service quality approach can aid in reducing, or eliminating, such incidents.

**Discrimination in U.S. Restaurants – Reported Incidents**

Although racial discrimination may no longer be pervasive in the U.S. restaurant industry, it would be naïve to argue that it no longer exists, as a number of recent incidents demonstrate. For example, a University of Florida research study found that travel for college-educated Blacks is often tainted by racial discrimination at hotels, restaurants and amusement parks while they engaged in leisure travel (Keen 2001). In May 2004, at an upscale Miami (South Beach) restaurant, an incident occurred involving Charles Thompson, a 40-year old Black diner and an employee of American Express. Even though he had eaten at the establishment frequently in the past, the manager charged him a mandatory 15 percent tip on this occasion, although he had never seen the charge on his past visits. Thompson examined the bill of two nearby White customers, whose bills did not contain a mandatory gratuity. When he complained about the tip, the restaurant's owner stated that "You people don't tip well," and this was the explanation offered for the charge. Thompson, who was dining with a Black co-worker, Theresa White, contacted the Miami Beach police, and the police officers said that the restaurant owner gave them the same explanation about his rationale for the mandatory gratuity. (Spencer, 2004)

Of all well-known U.S. restaurants, the Denny's restaurant chain seems to have had the most difficult time in providing unbiased service for people of color. Denny's troubles go back many years. For example, U.S. Secret Service agents went to a Denny's restaurant in Annapolis, Maryland and waited nearly an hour to order while their White companions were seated promptly and waited on with second and third helpings. (*Public Accommodations Project, n.d.)* A 1991 incident in Sacramento, California occurred in which a White male resident was promptly seated at a Denny's restaurant. However, when his wife, who is Black, joined him, the waitress's demeanor changed dramatically. She slammed down a platter of spaghetti in front his wife, splashing her blouse with tomato sauce. (Ferraro, 1995) Another incident involving Denny's

occurred on July 31, 1999 in Round Rock, Texas. Despite plenty of vacant tables and less than a dozen restaurant patrons, two Black men and a Hispanic woman were informed by a Denny's worker that they could not be seated for fifteen minutes because of a shortage of cooks. However, within seconds of their being refused seating, two White customers entered the restaurant and were seated immediately. (see *Three Minority Individuals Sue Denny's in Round Rock for Racial Discrimination,* 1999) After being seated, one of the Black men, Douglas McNeal, was told that he and his party had to pay for their meals when they ordered them. After observing a White couple order and pay for their food at the counter, Mr. McNeal questioned the waitress, and was informed that "some black guys had been in earlier who made a scene and walked out without paying their bill...so the manager now wanted all blacks to pay up front" (Dunham 2001).

While incidents of racial discrimination at Denny's are widely known, many other episodes speak to the prevalence of the racial discrimination of Blacks in U.S. restaurants. Four members of a gospel-singing group filed a lawsuit saying that workers at a Waffle House in Monroe, North Carolina made them give up their seats so White patrons could sit. On February 11, 2001, the men went to the counter, placed to-go orders, and sat at counter stools. They later asked to eat in the dining room. Minutes later, a White security officer 'in an aggressive tone' told them to move, as several White customers who had come in needed to sit. After the men told the officer they intended to dine in the restaurant, he ordered them to leave. The men went to their bus as the security guard taunted them. Although the local police came to the scene, they did not file charges. A spokesperson for Waffle House said the firm regularly trains workers on its anti-discrimination policies and suggested that poor service can sometimes be misread as racial bias. (Frazier, 2001) In July 2000, a Virginia family was refused service at a Waffle House restaurant in Walterboro, South Carolina when an employee advised "We don't serve n------ here" (Frazier, 2001). In an attempt at service recovery, company officials sent the family a letter of apology and a coupon for $20 off their next meal at the chain.

On June 3, 1999, a Souper Salads restaurant manager in Austin, Texas had two Black couples and their six children removed from a restaurant after they complained about finding bugs and gnats throughout the salad bar. After one of the kids discovered insects in his food, his father asked the manager, who was standing nearby, if he would restock the salad bar so the families could have sanitary food. The manager said he already knew about the situation and walked away. The families got soup and returned to their seats, figuring the manager would switch out the salad bar and put it in sanitary condition. Later on, three police officers entered the restaurant, spoke with the manager, went to the families' table, and informed them the restaurant manager wanted them to leave. After learning the manager did not want to talk with the party, approach them, or 'deal with them at all,' the officers escorted the families out of the facility to prevent any more issues. (*See Two African-American Families Sue Souper Salads Restaurant for Racial Discrimination,* 1999)

In fiscal year 2001, the Vermont Human Rights Commission dealt with a case where a restaurant seated two Black customers in a closed and darkened section, away from other diners. When they asked to be seated elsewhere, the manager on duty told them they either had to keep the table they had been assigned, or leave the restaurant. In the same year, a Vermont bar was accused of denying a Black customer entry because of her race. (*Case Summaries,* 2000)

A 2001 lawsuit accused Cracker Barrel restaurants of providing Black customers with poor service, 'segregating' them from White customers and giving them food taken from the trash (Tamen, 2001). Over 300 current and former employees gave statements that supported the claims of company-wide discrimination. A White waitress at a Florida Cracker Barrel saw Blacks receiving slower and less courteous service than White customers, and being denied the Cracker Barrel-mandated free meal after complaining about the quality of food or service. Another White waitress said that she routinely witnessed Blacks being subjected to racially

derogatory remarks by Cracker Barrel staff. In addition, a former customer hotline employee said Cracker Barrel received about 300 calls monthly alleging discrimination against minority customers. Further, in July 2003, two central Arkansas Cracker Barrel restaurants were accused of racial discrimination by 23 Black customers, who filed suit against the firm in federal court. (Tabor, 2003)

The owners of the Mounty Bar and Restaurant (Mounty) in Chester, West Virginia agreed to settle a lawsuit that alleged the operation denied service to Black patrons by demanding they display "membership cards" before receiving service, while not requiring cards from other consumers. The Mounty is now required to serve patrons of all races, whether or not they have membership cards, post notices that the business serves all people despite race or color, and train employees in the requirements of Title II of the Civil Rights Act of 1964. (See *Justice Department Announces Settlement of West Virginia Racial Discrimination Case,* 2003)

The examples of racial discrimination at Denny's and numerous other restaurant establishments underscore the comments of Jim Adamson, who is the Chief Executive Officer of Advantica, Denny's parent company. He indicated that the attitudes at Denny's are reflective of similar attitudes of most Fortune 500 companies, where diversity and inclusiveness is a 'memo', as opposed to being ingrained as part of the firm's corporate culture (Hohman, 2000). Adamson commented that "The sad part is that discrimination takes place in this country every day. Denny's wasn't alone. This is an American problem".

As the preceding examples demonstrate, racial discrimination still remains a problem for U.S. restaurants, and for their guests of color. The underlying cause of such discrimination is employee, supervisor, and/or owner prejudice or dislike of people of other races. Once restaurant employees allow a customer's skin color to alter their behavior, the stage for racial discrimination, service quality problems, and customer dissatisfaction has been set. Moreover, problems escalate and behavior becomes entrenched when little or nothing is done to curb this type of disrespectful and costly interaction with guests of color. Such an approach is out of balance with what has been suggested by over two decades of services marketing research, as will be discussed next.

**The Application of Services Marketing Concepts**

Service failure is inevitable, according to Zeithaml and Bitner (2003); however, racial discrimination in service delivery is not. Service provision on a consistent basis is a challenging undertaking for any hospitality firm. However, service provider behavior that results in skewed treatment for customers because of race or color clearly falls outside of any acceptable zone of tolerance and makes service recovery much more difficult to achieve. Left unresolved, these service failures motivate mistreated persons to tell others about their experiences, or even to challenge the provider through consumer rights organizations or legal avenues.

Service quality research has established that only a very small number of consumers actually take the time to voice complaints about a service problem. When they do take the time and effort to complain, customers expect to be helped quickly, to be compensated for their grief and for the hassle of being inconvenienced, and to be treated well in the process. However, rather than the receiving such responsible approaches to complaining behavior, many Blacks are denied service, asked to leave, or continually mistreated by service providers.

Many of the aforementioned examples of racial discrimination against Black restaurant patrons initially portray them as *irates* or *voicers* (Zeithaml and Bitner, 2003). *Irates* are consumers who, though somewhat likely to spread negative word of mouth to family and friends and to switch patronage, are about average in their tendency to complain to the provider and believe that complaining to the provider can have social benefits. *Voicers* are customers who are less likely to engage in negative word of mouth, to change service providers, or take their grievances to third parties and who actively complain to service providers believing consequences can be

very positive. The virtual absence of service recovery strategies, however, typically transformed these guests into *activists*. *Activists* are customers who are alienated from the marketplace, armed with a high propensity to complain on all dimensions, and may even be motivated to go to extreme lengths to inform as many people as possible about the restaurant's practices (Zeithaml and Bitner, 2003). Initially, each of these customer types simply want to be treated fairly; that is, to be served in a logical order in a timely manner, to pay using the same procedures as other patrons, and to receive standard service regardless of their skin color. However, the firm's own actions may initiate their complaining behavior.

According to Keen (2001), racial discrimination has both financial and moral implications for the hospitality and tourism industry. The potential costs to the restaurant industry for engaging in discriminatory practices are clearly significant. For example, Denny's paid $54 million in compensation to settle its racial discrimination charges (Dunham, 2001). Additionally, Denny's management recognized that their biggest cost was in lost patrons, who because of their history may have elected to dine elsewhere (Hohman, 2000). More recently, Cracker Barrel settled its bias charges, by agreeing to undertake a five-year comprehensive plan to deal with discrimination, train more managers, and hire an independent auditor to monitor its actions (CBRL Group, 2004). Thus, both firms have incurred significant costs for changing their approach to serving guests of color.

Further, though some individuals wonder about the super-sensitivity of Black customers, Blacks tend to be patient and tolerant patrons of White-owned businesses that, as consumer studies have shown, routinely provide overpriced, substandard goods and services to Black customers (Graves, 2002). One such study found Black tourists rarely changed their entire travel plans because of racial discrimination (Keen, 2001). The highest percentage (16 percent) that reported quitting a particular activity, were those tourists who were eating meals in sit-down restaurants. According to Keen, service providers would normally expect people to avoid situations that are very uncomfortable, but it may be the case that Black Americans do not change their travel behaviors because they perceive that they do not have any alternative. Thus, restaurant companies that promote diversity, service quality, and customer satisfaction regardless of race may position themselves for higher levels of success with Black Americans through these forthright actions.

Finally, because Black customers have significant travel spending power, the tourism industry, including restaurants, will lose revenue if these guests are disenfranchised by discrimination (Keen, 2001). As one industry practitioner advises, embracing diversity in marketing and building business with multicultural consumers can dramatically increase both profits and customer satisfaction. Since the U.S. Black community collectively spends about $500 billion a year, it would be a mistake to overlook this large market segment (McCollum 2002). With this perspective in mind, a number of service-based initiatives may help restaurant firms to better address the issue of delivering an evenhanded treatment for all guests.

**Recommendations for Restaurant Firms**

In order to avoid lost revenues and losing marketing opportunities that stem from discriminatory practices, restaurant firms may want to tackle the problem from not only an operational perspective, but also from a moral one. Such a dual approach could employ a number of proactive steps, with a special focus on the firm's human resource management practices. First, compensation practices should be examined. Frontline service employees have traditionally been the lowest paid, although they have the greatest impact on customers during the service encounter (Titz, 2001). This is particularly true for the restaurant industry. More efforts should be focused on hiring excellent frontline workers and compensating them better. Senior management's perception of these front-line, customer-contact positions should be altered so individuals in these critical roles are more valued on a company-wide basis. Higher-level employees could be regularly rotated through front-line positions to give them perspective

about their own positions, to raise the status of the front-line positions, and to more directly gather customer feedback and employee experience, which can be translated into improved service delivery processes and ultimately, customer satisfaction levels.

Furthermore, employee incentives should be tied to customer satisfaction levels, not just financial metrics, in order to improve service quality and evenhanded, impartial guest treatment. Appropriate, simple, and easily understood standards should be carefully established. They should focus on those service elements that employees can affect and the key drivers of successful business performance. Furthermore, goals should be fair, reasonable, and attainable, and employees should be involved in their own goal setting when possible. In this way, employees may be motivated to really excel at their jobs, rather than just doing them out of necessity.

Another proactive step by firms would involve adopting intensive workforce diversity training, which can help organizations and employees avoid discrimination and operate more appropriately and profitably. Although most training initiatives focus on relatively modest goals, such as individual employee attitudes, more comprehensive training efforts also focus on individual behavioral concerns, and human resource policies and systems. The most comprehensive training programs are complete endeavors to transform values and cultures using organizational developmental approaches. However, only about one quarter of organizational trainers use a more comprehensive approach, which has several critical elements that drive its efficacy. Some of these elements include having strong support from top management, linking diversity to central operating goals, enrolling all levels of employees, discussing discrimination as a general process, addressing individual service behaviors, and complementing training with human resource practice changes that affect the corporate culture (Bendick, 2001).

Finally, the best approach for restaurant firms of all sizes in providing consistent quality service for all customers regardless of race is simply to expend the requisite time and resources to initially select and hire non-racist employees at every organizational level. Gauging service predisposition at the employee selection stage is critical in ensuring optimum fit between service jobs and front-line workers and delivering excellent service quality. (Kusluvan, 2003) While some may argue it is difficult to build a workforce devoid of racism, emerging technologies (i.e., the computerized interviewing technique 'H.R. Easy') can screen applicants for racial bias and help prevent hiring individuals with predisposed prejudicial tendencies (Dunham, 2001). Although emerging technologies may offer some assistance to service firms, they must be combined with a company culture that steadfastly condemns racial discrimination and terminates employees who consistently behave in a discriminatory fashion and refuse to treat all customers equally, regardless of their color (Dunham, 2001). Only then will true business success be achieved, according to not only the letter, but also the spirit of the laws that safeguard all U.S. citizens from being discriminated against in their daily lives.

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# Perceptions of the Beach Users: A Case Study of the Coastal Areas of North Cyprus Towards Establishment of a 'Carrying Capacity'

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*Within the main elements of economic sustainability, socio-cultural sustainability, and environmental sustainability, the criteria of 'carrying capacity' have been emphasized through residents' perception analysis to explore practical methods towards the application and implementation of such criteria. As data analysis revealed, the main tourist resources in the case of North Cyprus—the coast and the beach—have a certain capacity to sustain the impact and pressure or tourism. Despite the significance of the indigenous environment and with respect to the residents' perception of optimum carrying capacity levels, this issue has not been given a due consideration. This has resulted in a process of coastal development which bypasses any measure ore application of a standard to harmonize the degree of physical development and the capacity of the beach. The main objective of this paper is to establish the concept of 'carrying capacity' as the means to achieve the reconciliation of environmental impacts with tourism development. The study concludes that, if carrying capacity measurement and its implementation are not incorporated into the planning decision as a clear policy, there will be grave negative consequences for the those resources attracting visitors.*

## Introduction

In less than two decades, over one billion tourists will roam the planet Earth. Resource depletion, environmental degradation, global warming, population growth, and the collapse of basic services have become an alarming concern for the United Nations. To achieve sustainability, there is almost no other alternative but to 'plan' ahead. Sustainability has been proposed as an antidote to overcome the consequences of these negative realities in the future (WCED, 1987; WTO, 2004).

Carrying capacity has now become a central research theme (Silva, 2002; Graefe *et al.*, 1984; Shelby and Heberlein, 1984; Stankey and McCool, 1984). Research issues such as crowding and recreation satisfaction have been used recently to measure the experiences felt by tourists and locals and as theoretical concepts to help define the recreation carrying capacity of tourist destinations (Manning, 1999). 'Carrying capacity' is defined as: "the maximum number of people who can use a site without an unacceptable alteration in the physical environment and without an unacceptable decline in the quality of experience gained by visitors" (Mathieson and Wall, 1982). The concept of carrying capacity has been expanded to include much broader aspects of the destinations from both tourists' and residents' points of view. It has been extended to include not only the physical environment, but also social, cultural, economic, and infrastructural capacity of the destinations (Inskeep, 1991).

It is not surprising that people have always been attracted to coastal areas. These areas are considered to be the most valuable parts of many countries' territories, either with respect to their natural and environmental qualities or with regard to their potential for national socio-economic development (DESUA, 2002). Nine out of the ten largest cities in the world are located on sea coasts; the world's most populous countries in terms of population density are coastal nations and more than half of the world's population live within 100 kilometers (60 miles) of the sea (Marsh and Grossa, 2002). In the meantime, most of the destinations have local jurisdictional orientations within which their development and operations decisions take place at the local level. Therefore, "many of the factors causing ecosystem decline such as rapid urban development, urban-run off, and habitat fragmentation occur at the local level and are generated by local land use decisions" (Brody *et al.*, 2004 : 33). Carrying capacity needs to be part of the planning process at the local level with a focus on a broader spatial scale in relation to ecosystems beyond the local jurisdictions.

Defining the carrying capacity of coastal areas is easier in terms of physical carrying capacity, where the limits are set by the available space for building, the dimensions of the infrastructure and the limitations of island characteristics. In contrast, the evaluation of social carrying capacity limits is much more difficult to achieve (Schreyer, 1984). The carrying capacity idea is inherently appealing though it may invoke discussion due to the two aspects it aims to balance. It recognizes the need to manage visitor usage and minimize the threat posed to the sustainable use of finite resources. In the meantime, there is a great desire, not by choice as much as by chance, to maximize all tourism growth opportunities and benefits from increased tourism activity. As this article has been written based on a 'sustainable' perspective, it is reasonable to make relevant comparisons between the 'carrying capacity' concept on one hand and the spcio-economic and physical characteristics of the Island State on the other.

"Their reduced areas, shortage of natural resources, geological complexity, isolation, and exposure to natural disasters, fragile ecosystems, demographic pressures [i.e., including tourism] and economic fragility make the environmental problems of islands usually very serious. Understanding and implementing preventive strategies [i.e., establishing carrying capacity] for sustainable development become critical issues for islanders" (Ramjeawon and Beedassy, 2004).

According to DESUA (2002), coastal areas are normally associated with mass tourism, large scale construction and infrastructure, intensive land development and extensive urbanization. Carrying capacity issues revolve around considerations about tourist density, the use of beaches and tourist infrastructure, congestion of facilities, sea pollution... etc. The carrying capacity of a beach is also a fundamental part of the coastal areas, especially in the island regions.

As Masters *et al.* (2004) noted: "The economic relevance of coastal and estuarine regions is unquestionable in today's world. Important economic activities such as; fisheries, tourism, industry or agriculture (which counts for a high percentage of the income of many countries), depend on the quality of estuarine and coastal waters. Additionally, these areas provide the environment in which a wide range of valuable natural functions take place. However, the growth of human related activity in coastal and estuarine zones has led to a progressive degradation of these environments".

Beach carrying capacity is not only related to the area of sand space available to users, other factors also play an important role and need to be considered. For example, beach accessibility, car park availability, facilities, and peoples' behavior can also influence the determination of carrying capacity criteria (Morgan, 1999 and Hecock 1983). Therefore, carrying capacity as a means of beach management is an important topic to consider for destinations that seek to generate tourism and recreation activities in a sustainable manner. The current study aims to explore the perceptions of the beach users in order to provide a comprehensive understanding for the public and local authorities to achieve efficiency and sustainability in tourism.

## Carrying capacity as a planning tool:

The theory of tourism has recognized a set of comprehensible constructs essential for the functioning of tourism system as well as its sustainability. To name a few; environmental quality, sustainable and efficient use of the limited resources, competitive characteristics of the industry, its global connection via international capital, and its recognition as means to achieve economic growth and development (Inskeep, 1991; Gunn and Var, 2002; Mihalic, 2000; and Burns, 1999). Within this context, the tourism product can be promoted, marketed, and profitable if certain fundamental measures are in place in terms of planning and management. This study's perspective is based on the fact that, tourism has suffered tremendously because of ignorance and the apathetic behavior of the early developers-public and private- who misperceived the sector as "smokeless" industry or "candy floss image" of tourism at the official level up to 1970s (Burns, 1999).

This type of perception and behavior mixed with boosterism based on European Laissez-faire and the North American frontier capitalism, by passed certain "planning" laws and principles, especially in terms of control and limit to growth. In this regard, Hall (2000) noted : 'Under the boosterism tradition, residents of tourist destinations are not involved in the decision-making and planning processes surrounding tourism development and those who oppose such development may be regarded as unpatriotic or excessively negative . However, by the 1980s, the so called negative consequences of lack of planning and specialized management system for tourism development began to appear and the overall outcome of this raised many eyebrows among scholars regarding the social , environmental, political, and economic impacts of the sector. These views lead to criticism of the prevailing myopic understanding of tourism, especially if it is examined against backdrop of sustainability and local participation. This change in perspective was not limited to the officials in the destinations themselves; it was also detectable in the Terms of References (ToR) of the International Organizations who were supporting tourism development in so called Third World Countries. Therefore, "the type of planning espoused by the World Bank and executed by the major consultancy firms confused the purpose of tourism" (Burns, 1999). Consequently, certain polarities developed to distinguish different development patterns with development outcomes. Thus, at one end of the spectrum some commentators perceived tourism as "business" while others recognized it as "impact" (Burns, 1999.

Eventually, the discourse on tourism development in relation to negative impacts; disenfranchisement of the local communities, and naivety of the officials in welcoming the application of neo-liberal ideas of the "magic of market" mechanism (Clancy, 1999) resulted in an awakening that tourism has its own unique dynamism and evolution. As Richter elaborated: "despite the apparently much frivolous nature of tourism, it is a massive and intensively competitive industry with acute social [environmental] consequences for nearly all societies" (Winson, 2006). Thus, it has generated a so called 'paradigmatic' view which has been crystallized into tourism policy and planning. It is based on such dialectical discourse within the tourism research that this study focuses on "carrying capacity" as a fundamental planning tool to achieve the positives of master planning on one hand and the empowerment of the local players in overcoming the vagaries of haphazard planning and the destruction of environmental resources essential to develop a sustainable tourism on the other.

As Murphy and Murphy (2004) reiterated: "...tourism carrying capacity should be viewed more as a network of factors rather than as a simple direct relationship between usage levels and negative impacts. The network involves linking the physical characteristics of the site with visitor satisfaction, community interest and political goals." The concept has been elaborated furthermore and intertwined with Visitor Impact Management (VIM), which pinpoints the threshold capacity in each ecosystem and warns us against possible environmental destruction (Murphy and Murphy, 2004). VIM and Carrying Capacity Standard (CCS) are policy guidelines concerning two issues: the physical and the human. The physical aspect is dealing with the state of the environment and the impact to it; and the human aspect is dealing with the community members and tourist's experiences as they pass through a mosaic of tourism development (Inskeep, 1991; Gunn, 2002; Murphy and Murphy, 2004).

The carrying capacity concept has been around since the 1930's in various forms and models, which adapted and used it in the recreation sector. (Gamini, 2002). However, because of the inadequacy of quantitative analysis, especially in relation to ecotourism and ecosystems, it had not become a major policy decision making tool until recent times. This attitude continued in relation to mass tourism which was considered a smokeless industry up until the 1970's and 1980's. Furthermore, factors such as the lack of environmentally acceptable indicators; the subjectivity of certain parameters; resource use conflicts; and the complexities of the techniques used by researchers all have helped inhibit the use of this concept.

Having said this, tourism carrying capacity, as it began to draw attention in the 1970's and 1980's, eventually emerged as a legitimate research tool that can be used in the planning process. In spite of its ambiguity, and its lack of a standardized application, it is still a useful tool and a credible mechanism to be concerned in any planning decision for tourism. The threat to the fragile environments and protected areas are increasing as ever before and the level of use, in many environments is disturbing fragile soils, vegetation, and wildlife, and may cause unacceptable crowding and visitor conflicts. Therefore, outdoor recreation research has adopted the concept of carrying capacity (i.e., including the coastal areas) and devised numerous frameworks towards upholding the concept's validity to achieve the safeguarding valuable environments. In Lawson *et al.'s* (2003) terms: "a number of frameworks have been developed to provide managers with a basis for making decisions about the carrying capacity of parks and protected areas, including Limits of Acceptable Change (LAC), Visitor Impact Management (VIM), and Visitor Experience and Resource Protection (VERP)." Models such as the precautionary principle (PP); safe minimum standard (SMS); ultimate environmental threshold (UET); and multi-attribute utility theory (MAUT) have been used to quantify the concept of carrying capacity (Gamini, 2002).

"The concept of sustainability has been widely used as an organizing framework since the Brundtland commission and the UN conference on economic and development in Rio de Janeiro in 1992 promoted this *leitmotive* at an international level. The general objective is to maximize various developmental goals across the biological, economic and social systems thus generating trade-offs among them" (Kammerbauer *et al.*, 2001).

Albeit its ambiguity, 'sustainability' has remained a powerful conceptual paradigm and it has captured a great deal of space within the developmental literature. "Sustainable tourism" has also gained increasing importance on the international agenda and the Johannesburg Plan of Implementation highlighted promoting sustainable tourism development and capacity building to contribute to the strengthening of rural and local communities (Strachan and Roberts, 2003).

The main assumption is that, a carrying capacity establishment has been introduced in this study as a legitimate policy mechanism and planning tool towards the broader objectives of sustainability which has been criticized for only being useful at a conceptual level, not at an operational level (Kammerbauer *et al.*, 2001).

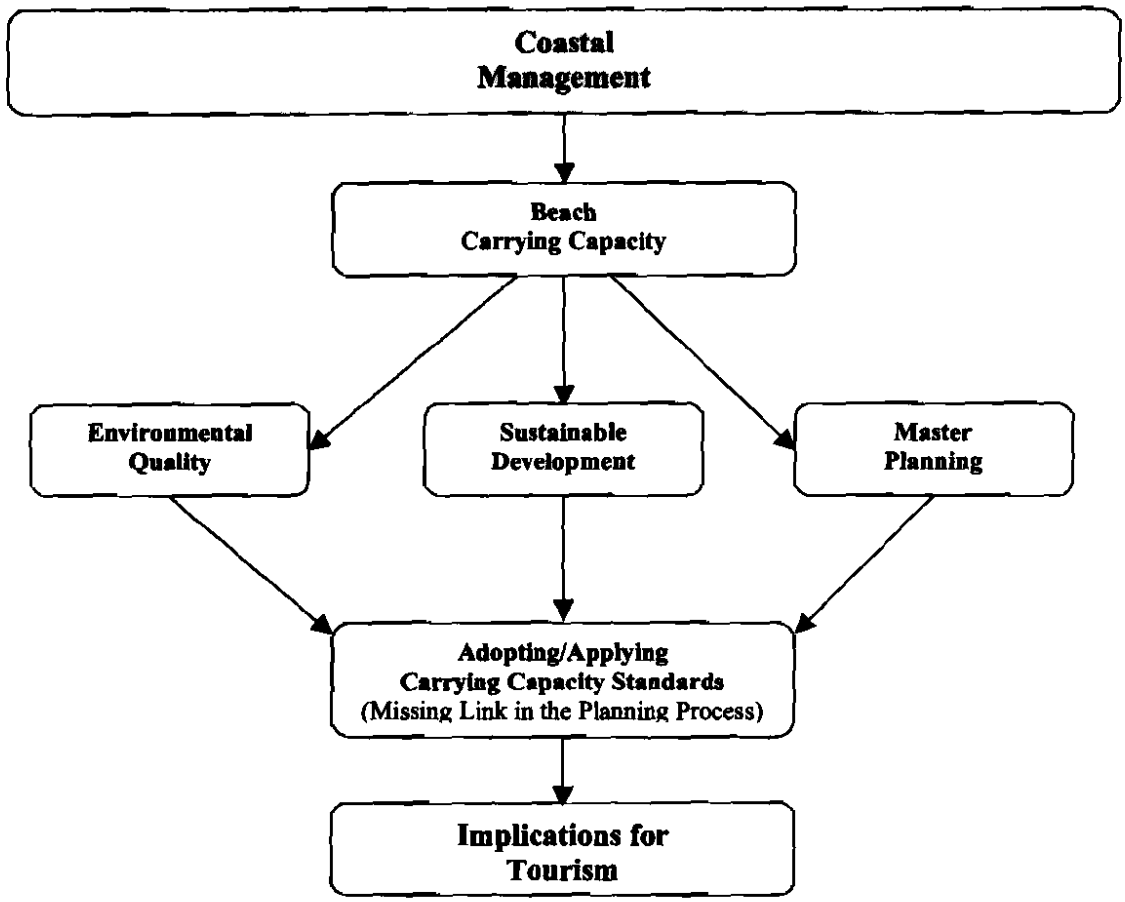
This study is the first major step in developing a conceptual framework based on a model (see figure 1) which places the 'carrying capacity' analysis within a sustainable tourism planning. This also is an effort (i.e., regarding the case of TRNC) to extend established planning theories and initiate a practical mechanism by adding the carrying capacity considerations to the existing conceptions. Therefore, the study builds on a model which identifies the factual basis on grounds which are not necessarily based on policies and plans to achieve the goals of sustainability.

This study is an effort to explore the case of North Cyprus, on which coastal resources are the main tourist attractions, it is therefore extremely vital to control and protect them. Two aspects are emphasized: one is the 'ecological capacity' issue, which is 'how many tourists can be accommodated before some negative impact occurs'; and, a 'perception capacity', which refers to 'how much tourism is acceptable before there is a decline in visitor satisfaction' (Burton, 1995). "In tourism both the quality of the environment and the tourist experience need to be considered, hence the industry needs to monitor and control (i.e., dual controls) both at once" (Murphy and Murphy, 2004).

Carrying capacity analysis becomes a justified practice when tourism is perceived not just because it is the world's largest industry or largest employer, 'also because of the enormous impact it has on people's lives and on the places in which they live, and because of the way in which tourism is itself substantially affected by the world around it' (Hall, 2000).

Alas, in many parts of the Mediterranean, the coastal areas/shores are poorly managed and regulated (Snoussi and Aoul, 2000). And in the case of TRNC, a coastal planning system is nonexistent. This is contrary to increasing interest in an integrated vision of coastal zone management. Therefore, the aim is to bring the concept of 'carrying capacity' into the planning process hoping it will eventually become a legislative reality and an institutional arrangement towards the sustainable development of fragile coastal areas.

**Figure 1: Sustainable Tourism Planning Model**



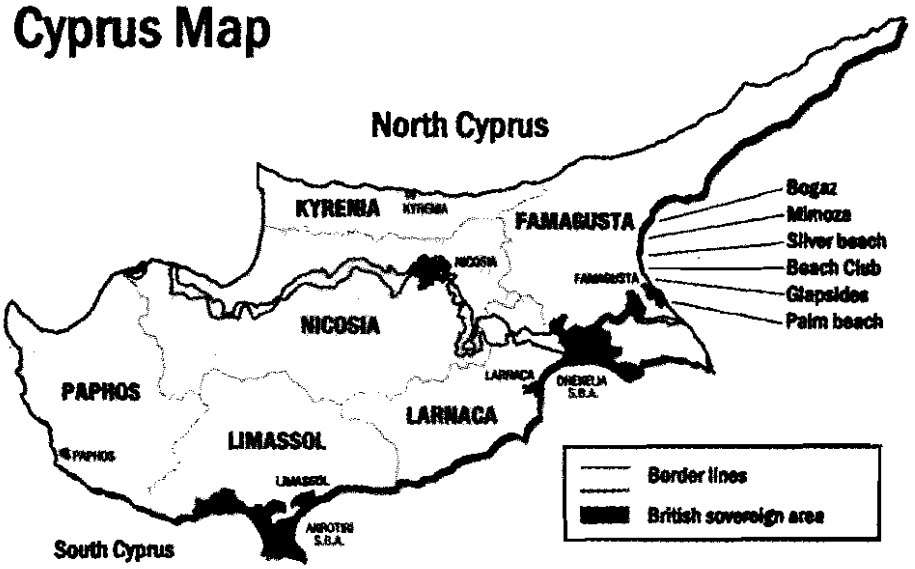

The authors firmly believe that, the 'carrying capacity' (CC), Limits of Acceptable Change (LAC), Visitor Impact Management (VIM), and Visitor Experience and Resource Protection (VERP). And/or models such as 'the precautionary principle (PP); safe minimum standard (SMS); ultimate environmental threshold (UET); and multi-attribute utility theory (MAUT) are tools which can be made operational to reinforce the objectives of the sustainability which is addressed by the United Nations Environmental Program (UNEP).

UNEP has addressed the concept of sustainable development within three environmental components: (1) environmental assessment: through the evaluation and review, research and monitoring and the exchange of views on the environment; (2) environmental management: through comprehensive planning that takes into account the effects of the acts of humans on the environment; and (3) supporting measures: through education, training and public information [making environmental auditing a managerial policy] and also through financial assistance and organizational arrangements (Abeyratne, 1999).

## Case of North Cyprus (TRNC)

North Cyprus, which is known as the Turkish Republic of North Cyprus (TRNC), geographically refers to the northern part of the Island of Cyprus which has been declared independent since 1983. It occupies approximately the third of the Island with an area of 3355 sq. km (figure 2). North Cyprus is dominated by 320 kilometers of coastline, which is approximately half of the coastline of the whole island. The amount of coastline in this part of the island is relatively high (i.e., in proportion to the land mass it occupies), and to a large extent undeveloped.

**Figure 2: Map of North Cyprus TRNC).**




With nearly a half million tourists per year, and home to six universities with 37,000 students, the impact on the main beaches is challenging. The prediction is beach use will intensify as the prospect of a political solution to the Island's division is likely. For tourism activities in the north, see table 1.

**Table 1: Tourism activities in TRNC**

| | | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|
| **Number of arrivals** | | 492.843 | 562.375 | 589.549 | 733.898 |
| **Mode of arrivals** | | | | | |
| Air | | 59.7% | 58.3% | 57.3% | 55.8% |
| Sea | | 40.3% | 41.7% | 42.7% | 44.2% |
| **Accommodation** | | | | | |
| Bed capacity | | | | | |
| 1 star | | 1.398 | 1.542 | 1.538 | 1.576 |
| 2 star | | 2.202 | 1.974 | 2.064 | 2.084 |
| 3 star | | 2.855 | 3.043 | 3.666 | 3.782 |
| 4 star | | 1.932 | 1.932 | 1.962 | 2.272 |
| 5 star | | 2.120 | 2.120 | 2.320 | 2.212 |
| Total | | | | | 11.926 |
| **Economic impact of tourism** | | | | | |
| Employment | | 5.995 | 6.056 | 6.083 | 6.699 |
| % Share in GDP | | 2.80 | 3.20 | 3.55 | 3.75 |
| Net tourism income (Million US $) | 93.70 | 114.10 | 178.80 | 271.10 | |

**Source:** Ministry of Tourism and Environment (2004).

Another dimension to this case is 'size'. TRNC is a newly formed independent state, which has a *de facto* independent status along numerous unrecognized countries in the world. Most of these regions have broken off their home countries and characterized as "small size and the sub-optimality of small states". TRNC is no exception and fits into this conceptualization, along with Malta, within the European Continent in terms of population, GDP, GDP per capita, and topography (Armstrong and Read, 2003). The issue of the 'size' has its advantages in some in relation to our study, but it has also numerous disadvantages as the TRNC's environments are highly vulnerable to the pressure and impact of development. The threat to those environments is even higher when a formal planning system is not in place.

Nonetheless, further changes in the political environment will likely open the northern destinations to a tourism boom, and this can catch officials off guard. In this sense, and with respect to tourism theory, sustainability is illusory without a proactive planning and impact prediction system. Carrying capacity analysis will work as a vital mechanism to resolve the environmental debate in tourism, conflict with biological conservation, threat to undisturbed landscape, the expansion of recreation activities, wilderness protection, composition of the flora and fauna, pollution, erosion, and visual impacts (Garrigos Simone et *al.*, 2004).

Therefore, this study aims to explore the perceptions of beach users so as to pave the way for the establishment of a 'carrying capacity' mechanism as an essential aspect of a larger picture which is 'sustainability'. The scope of this study is limited to six beaches located between Famagusta and the Bogaz coastal zone. (Refer to figure 1).

The 'carrying capacity' concept can be also contemplated when it is examined against the 'product life cycle' model as elaborated and furnished by Butler (1980). As elaborated by Priestly and Mundet (1998). Our model foresees future development in terms of organized mass tourism, a declining market, an increasing number of weekend or one day visits, and the conversion of hotels into apartments for permanent settlement or retirement homes. By this stage, many resorts have suffered declining patronage because of changing fashion and consumer tastes, resident resentment and environmental change. Rejuvenation, or renewed development will almost certainly require, in Butler's opinion, a complete change in the attractions on which tourism is based.

The case of TRNC is rather unique as the TRNC has been under embargo and sanctions since its separation from the south in 1974. This situation has hampered, but did not halt, it's progress in overall economic development (Alipour and Kilic, 2005; Altinay *et al.*, 2002). However, with the recent improvement in the communication between north and south, and further popularization of the north (i.e., EU connection), tourism has reached the stage of development which is characterized as: "rapid expansion of facilities; increasing investment by non-local companies to develop accommodation, natural, cultural and manmade attractions" (Burton, 1995). At this stage, a carrying capacity scenario is critical to the future of tourism and its sustainability.

## Methodology

This study used both qualitative and quantitative research approaches. Generally qualitative research focuses on subjective experience and perception of the research subjects. In qualitative research, the researcher is the key instrument of data collection. Tools used include open ended interviews, field notes, and 'conversations' with participants or journal diaries. The focus of qualitative research is not only to describe but also to analyze. It seeks to look at the why of events not just the what (Tuckman, 1988). Therefore, North Cyprus is taken as a case study in the hope that it will produce a guideline for the planners and decision makers to achieve a certain degree of sustainability. On the other hand descriptions of quantitative research typically discern a cycle of successive phases of hypothesis formulation, data collection, analysis

and interpretation (Huysamen, 1997). Using a deductive approach, quantitative research seeks to establish facts, and make predictions possible in this study.

Fieldwork was carried out in order to determine the factors of carrying capacity of the beaches. A primary research process was developed to form structured data collection which followed a preparation stage; designing questionnaires and the selection of samples. A pilot study resulted in the survey instrument. A qualitative method was used in order to collect the primary data. The in-depth survey instrument in this study was requested from Silva (2002) in Portugal via e-mail. After receiving the instrument, it was adopted to prepare a final survey instrument based on ten factors.

These factors are highly associated with the patterns of the process of change of the natural and built environments and of tourism growth. In fact, the critical limit of carrying capacity can coincide with the stage of the development which is before the consolidation and stagnation stages. Therefore, gauging beach users perceptions might become the underlying criterion which the rate and the level of maximum development must be maintained within limits which reduce the threat to the sustainability (Gossling, 1999; Abeyratne, 1999)

The current study concentrates on the beaches as described in Table 2.

**Table 2: Characteristics of Famagusta and Bogaz beaches**

**Palm Beach**: A sandy beach located between the city of Famagusta and deserted city of Marash. The beach accommodates a five-star hotel- Palm Beach hotel. This beach consists of two parts; the principal part is owned by the hotel with an attractive setting—equipped with sun beds and umbrellas. It is used highly by the guests who are staying in the hotel. While the hotel guests are on the beach, they can use the facilities of the hotel like swimming pool, restaurant, beach bar and terrace. They can also use the car parking area belonging to the hotel. This is an urban beach highly accessible by the residents living in Famagusta. The second section of the beach is an open area to the public and to a large extent unmanaged. Because of accessibility and the fact that it is in a walking distance from the city, lack of parking is a problem, and overuse of the beach has resulted in a certain degree of pollution around the beach and the water. This beach has a limited carrying capacity as it is not a broad beach. To achieve a sustainable resource base regarding this beach, an application of carrying capacity concept is of immediate concern.

**Glapsides beach:** It is a sandy beach nearly 3 kilometers outside Famagusta decorated with sun beds and umbrellas. This beach has an adequate parking facility. Glapsides has one restaurant bar, one beach bar and one disco bar. It has no accommodation facility like a hotel or guesthouse next to it. There are two stands which rent entertainment facilities; like canoes, sea banana, pedal boats, and Jet skies; water skiing and wind surfing are also available. There is also one volleyball court for young visitors. However, as the city is expanding and the university is planning to increase its student body; and with the prospect for tourism boom, this beach needs to contemplate a carrying capacity analysis as a proactive measure to overcome prevention of overuse and deterioration.

**EMU beach club:** This sandy beach is located 5 kilometers outside Famagusta and owned by Eastern Mediterranean University. The beach is quiet for the time being, but as it is sandwiched between two crowded beaches, there is always a danger of spill over from adjacent beaches.

**Silver beach:** This newly established beach is becoming popular and crowded as it is highly accessible; however, it suffers from lack of parking facilities and traffic jams. The beach is vulnerable if it is not managed properly. Carrying capacity becomes a necessity as the beach space is limited.

**Mimoza beach**: This beach is about 12 kilometers outside the city popular among local residents. It is highly crowded beach as it is limited in space. It is also frequented by the guests from three hotels near by. The beach can get overcrowded and overused. To sustain the beach's attractively and health certain planning measures are necessary to achieve a degree of carrying capacity measure and control.

**Bogaz beach:** Bogaz beach is located 24 kilometers outside Famagusta. It is limited in space and surrounded by numerous hotels and restaurants; a popular beach for dining in this area. It also contains a small marina. A carrying capacity analysis and implementation of certain measures are essential to achieve resources of this beach for the future of tourism in this area.

## Sampling process

In order to get a representative sample for the study, a qualitative assessment of beach perception at six different beaches was carried out resulting in the acquisition of 50 survey instruments. The data gathering procedure lasted about 20 minutes for each user and occurred during the month of May, 2005. A convenience sampling technique was employed at this stage (Aaker *et al.*, 2001). The sampling process continued until the required sample size was achieved (Robson, 1993). The sampling also is "purposive" because the study's aim was clearly identified and target group dominated by a certain market segment; in this case college students (Trochim, 2001).

Later, a quantitative assessment of beach perception at six different beaches was carried out resulting in 300 usable responses. This survey took approximately 10 minutes pre respondent and was conducted in June, 2005. Both studies were aimed at determining the perceptions of respondents visiting beaches of Famagusta and the Bogaz region. Samples in the study were considered to be adequate as the reliability of the study (0.76) was deemed acceptable (Churchill, 1979).

In order to analyze the data and produce the results shown, SPSS 10.0 for Windows was employed.

## Findings

### Demographics

Demographic breakdown of the sample in table 3 (see next page) shows that 61.8% of the respondents were males. The age distribution shows that the majority of respondents fall between the age group of "18 – 27" (52.9%); which proves that respondents in the sample are mostly young in age. With respect of their education, 58.2% of the respondents reported completion of formal education; the minimum being an undergraduate degree and 24.1% had masters/doctorate degrees. In the case of respondents' nationality, 64.1% of respondents were foreigners and 35.9% described themselves as locals. Only 8.8% of respondents had professional occupations such as engineers, doctors or lawyers, but the majority of the respondents (44.1%) were students. These students were being educated in Eastern Mediterranean University in the sample region. In the case of level of income, 37.1% of the respondents had an income of approximately $12,000 U S dollars per year. Only 19.4% of respondents were residents of North Cyprus, 43.5% of them were tourists, of whom 66.2% planned to stay for a "2 week" holiday and 23.0% planned to stay for less then a week. To clarify the length of stay issue further, students who are staying on the island for a long period to complete their education are likely categorized under the "*more than 3 weeks*" category.

**Table 3: Demographics (n= 170)**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| Gender | | |
| Female | 65 | 38.2 |
| Male | 105 | 61.8 |
| Total | 170 | 100.0 |
| Age | | |
| 18-27 | 90 | 52.9 |
| 28-37 | 15 | 8.8 |
| 38-47 | 16 | 9.4 |
| 48-57 | 29 | 17.1 |
| 58-above | 20 | 11.8 |
| Total | 170 | 100.0 |
| Level of education | | |
| Secondary or high school | 21 | 12.4 |
| Vocational school | 9 | 5.3 |
| Undergraduate degree | 99 | 58.2 |
| Masters/doctorate degree | 41 | 24.1 |
| Total | 170 | 100.0 |
| Nationality | | |
| Locals | 61 | 35.9 |
| Foreigners | 109 | 64.1 |
| Total | 170 | 100.0 |
| Occupation | | |
| Self-employed | 10 | 5.9 |
| Professionals (e.g. lawyers, doctors, engineers) | 15 | 8.8 |
| Students | 75 | 44.1 |
| Excecutive of a corporation | 19 | 11.2 |
| Governmental employees (e.g. officers, police man) | 25 | 14.7 |
| Personnel of educational organization | 20 | 11.8 |
| Others (e.g. retired, housewives, laborers etc.) | 6 | 3.5 |
| Total | 170 | 100.0 |
| **Income** | | |
| Less than 1000$ | 63 | 37.1 |
| 1001-2000$ | 25 | 14.7 |
| 2001-3000$ | 47 | 27.7 |
| Over 3001$ | 35 | 20.5 |
| Total | 170 | 100.0 |
| **Residency** | | |
| Resident | 33 | 19.4 |
| Tourist | 74 | 43.5 |
| Students | 60 | 35.3 |
| Others | 3 | 1.8 |
| Total | 170 | 100.0 |
| **Length of stay*** | | |
| Less than a week | 17 | 23.0 |
| 2 weeks | 49 | 66.2 |
| More than 3 weeks | 8 | 10.8 |
| Total | 74 | 100.0 |

***It is possible to have different variance of 'length of stay' in the sample, however, the average length of stay during the months of May and June recorded 7.6 and 8.2 nights respectively (MTE, 2001).**

## Evaluation and the results

As shown in table 4, 36.5% of respondents rated *accessibility* of the beaches as "good" but there are still 12.4% respondents who evaluate the beaches with "poor" *accessibility*.

**Table 4: Evaluation of respondents about Famagusta and Bogaz beaches**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| **Accessibility*** | | |
| Very good | 43 | 25.3 |
| Good | 62 | 36.5 |
| Reasonable | 37 | 21.8 |
| Poor | 21 | 12.4 |
| Very poor | 7 | 4.10 |
| Total | 170 | 100.0 |
| **Parking facility** | | |
| Very good | 18 | 10.6 |
| Good | 51 | 30.0 |
| Reasonable | 42 | 24.7 |
| Poor | 21 | 12.4 |
| Very poor | 29 | 17.1 |
| Don't know | 9 | 5.3 |
| Total | 170 | 100.0 |
| **Roads access*** | | |
| Very good | 9 | 5.3 |
| Good | 40 | 23.5 |
| Reasonable | 54 | 31.8 |
| Poor | 56 | 32.9 |
| Very poor | 9 | 5.3 |
| Don't know | 2 | 1.2 |
| Total | 170 | 100.0 |
| **Planning/management** | | |
| Very good | 6 | 3.5 |
| Good | 18 | 10.6 |
| Reasonable | 29 | 17.1 |
| Poor | 73 | 42.9 |
| Very poor | 43 | 25.3 |
| Don't know | 1 | 0.6 |
| Total | 170 | 100.0 |
| **Cleanliness** | | |
| Very Good | 7 | 4.1 |
| Good | 38 | 22.4 |
| Reasonable | 28 | 16.5 |
| Poor | 80 | 47.1 |
| Very Poor | 15 | 8.8 |
| Don't know | 2 | 1.2 |
| Total | 170 | 100.0 |

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| **Restaurants** | | |
| Very good | 12 | 7.1 |
| Good | 34 | 20.0 |
| Reasonable | 62 | 36.5 |
| Poor | 46 | 27.1 |
| Very poor | 14 | 8.2 |
| Don't know | 2 | 1.2 |
| Total | 170 | 100.0 |
| **Natural beauty** | | |
| Very good | 94 | 55.5 |
| Good | 55 | 32.4 |
| Reasonable | 14 | 8.2 |
| Poor | 2 | 1.2 |
| Very poor | 5 | 2.9 |
| Total | 170 | 100.0 |
| **Quality of environment** | | |
| Very good | 19 | 11.2 |
| Good | 60 | 35.3 |
| Reasonable | 63 | 37.1 |
| Poor | 24 | 14.1 |
| Very poor | 4 | 2.4 |
| Total | 170 | 100.0 |
| **Accommodation** | | |
| Very good | 19 | 11.2 |
| Good | 38 | 22.4 |
| Reasonable | 58 | 34.1 |
| Poor | 29 | 17.1 |
| Very poor | 15 | 8.8 |
| Don't know | 11 | 6.5 |
| Total | 170 | 100.0 |
| **Goods prices** | | |
| Very good | 17 | 10.0 |
| Good | 29 | 17.1 |
| Reasonable | 84 | 49.4 |
| Poor | 19 | 11.2 |
| Very poor | 13 | 7.6 |
| Don't know | 8 | 4.7 |
| Total | 170 | 100.0 |

*** Accessibility refers to the value of distance from the place where beach users stay or live (distance- decay factor). Road access refers to the mode/ means of connection which in this case is car or coach.**

30.0% of the respondents rated *parking facilities* on the beaches as "good" and 17.1% of the respondents found these beaches had "very poor" parking facilities. Clearly, the parking facility at these beaches was a weak factor. Most of the respondents (32.9%) consider that there should be an alternative mode of access to these beaches besides car or coach. This result has another connotation besides the accessibility. The congestion on the roads and the lack of other alternatives including bike paths for the bicycle users might limit the use by some. The *Planning/ management* aspect of most of the beaches under study remained problematic. 42.9% of the respondents' perception indicated this to be "poor" and 25.3% perceived them to be "very poor". 'Clean environment' remains one of the most important concerns of the tourists; the survey demonstrated that, 47.1% of the respondents found the *cleanliness* as "poor". Regarding the food outlets (i.e. restaurants and food establishments), respondents' evaluation indicated an overall "reasonable" (36.5%); nonetheless, 27.1% indicated "poor" and 8.2%. evaluated as "very

poor". Regarding the *natural beauty*, as shown in table 4, 55.5% of the respondents evaluated the *natural beauty* as "very good" and 32.4% of them found it as "good". Most of the respondents evaluated the *quality of environment* as "reasonable" (37.1%); this is an aspect which can draw the tourism planners' attention to the application of measures and mechanisms in the master plan to sustain these vital characteristics of the beaches. The *accommodations* and amenities around them are another factor which was considered in this study. Some of the older establishments have much better surroundings and green spaces; however, the new ones are lacking in this aspect. This was reflected by the respondents as they indicated 'reasonable' as only 34.1%. Nonetheless, respondents were affected by the price factor when expressing their views.

This detailed evaluation shows that there should be serious attention given to factors like *parking facility, alternative mode of access, planning/ management, cleanness, food outlets' quality, quality of environment, accommodation* and *prices*. This verifies that any future planning decisions need to consider and incorporate these factors, which are not separate from the carrying capacity concept and its implementation. The factor of *crowding* has not the cause of much conern by respondents in the study at this time. This is because of the overall beachfront per user ratio, which is still relatively high. However, the assumption is that this situation can change as the political environment changes, resulting in the further increase in cooperation and communication between the south and the north. This may also affect the length of stay which is not very long at this moment.

Precautions concerning future events have been addressed and attended to at other destinations (Inskeep, 1991). In fact the case of the south is highly relevant to the argument in the case of the north. Overcrowding and concentration on the beaches in the south has been alarming. The government and Cyprus Tourism Organization (CTO) in the south have embarked on a daring policy to divert the tourists from the coastal areas into the countryside/rural areas as the overcrowding (i.e., the carrying capacity threshold having been surpassed) is undermining the attractiveness of the beaches (Sharply and Sharply, 1997).

## Evaluation of respondents about beach related activities

Beach related activities can be an important guideline to have a practical understanding of the carrying capacity concept; because each activity can have a different degree of impact upon the beach environment and eventually on the perceptual carrying capacity of the tourists and users themselves (Burtton, 1995).

As demonstrated in table 5, out of 170 respondents, 97.1% considered *swimming* as a regular activity, 7.1% of them favored *spear fishing* activity, and 14.7% preferred *fishing*. The remaining respondents were against *spear fishing* and *fishing* activities. Generally, the respondents liked to visit *restaurants*, by 60.6%, and *walking* on the beach preferred by 81.8%. *Picnicking* on the beach preferred by some (35.9%), was disliked by the majority. Activities like *boat trips*, *scuba diving* and *snorkeling*, are also favored by some beach users. Coastal planners and managers can coordinate and plan each beach based on the beach structure and the users as some of these beaches currently are catering to tourists in their 30's and 40's.

**Table 5: Evaluation of respondents about the beach related activities**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| **Respondents' routine activities at the beach** | | |
| Swimming | 165 | 97.1 |
| Spear fishing | 12 | 7.1 |
| Scuba diving | 34 | 20.0 |
| Picnics | 61 | 35.9 |
| Going to restaurants | 103 | 60.6 |
| Walking | 139 | 81.8 |
| Fishing | 25 | 14.7 |
| Boat trips | 41 | 24.1 |
| Surfing/windsurfing | 15 | 8.8 |
| Snorkelling | 40 | 23.5 |

**Note:** The percentages (n=170) represents more than one positive attitude towards activities.

## Evaluation of respondents about physical development along the coastal areas

This issue was addressed in three categories in our study. First, it involves an attitudinal evaluation by the beach users about the intensity of physical development (i.e. urbanization). Regarding this aspect, 41.2% of the respondents considered that the urban developments are integrated and in harmony with the landscape, 17.6% believed that, they are well integrated and in harmony with the landscape. Almost half of the respondents (46.5%) believed that, the present situation of urban development along the beaches was inadequate. 32.4% of the respondents blamed this on the action of local authorities as being inadequate, and 18.2% of them believed that the local authorities' action has remained "very poor". This is a clear reminder of the haphazard urban development in the case of North Cyprus, which is not necessarily a healthy approach to coastal sustainability.

**Table 6: Evaluation of respondents related to urban development**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| **Respondents' thoughts about urban development** | | |
| It is well integrated and in harmony with the landscape | 30 | 17.6 |
| Only in some places it is integrated and in harmony with landscape | 70 | 41.2 |
| It's in conflict with the landscape | 43 | 25.3 |
| No opinion | 27 | 15.9 |
| Total | 170 | 100.0 |
| **Respondents' perceptions of present state of urban development** | | |
| Excessive | 10 | 5.9 |
| Adequate | 53 | 31.2 |
| Inadequate | 79 | 46.5 |
| No opinion | 28 | 16.5 |
| Total | 170 | 100.0 |
| **Respondents' views regarding the local authorities' approach to coastal conservation** | | |
| Good | 22 | 12.9 |
| Reasonable | 41 | 24.1 |
| Poor | 55 | 32.4 |
| Very poor | 31 | 18.2 |
| Don't know | 21 | 12.4 |
| Total | 170 | 100.0 |

## Evaluation of respondents about their favorite beach in the Famagusta and Bogaz region

This part of the questionnaire evaluates the attitude of respondents' about their favorite beaches and characteristics of those beaches in the Famagusta and Bogaz region. To analyze the

relationship of favorite Famagusta and Bogaz beaches with regard to respondents' age, educational level and gender, analysis of variance, (ANOVA), was performed. A significant difference was found, implying that respondents differed in their opinions about their favorite beaches. The results of the ANOVA led the researchers to conclude that the beaches of the Famagusta and Bogaz region are significantly different from each other. According to table 7, the favorite beach among respondents (24.8%) is found to be *Glapsides* beach. *Glapsides* is one of the most famous beaches in Famagusta, popular mostly with young locals, students and also young tourists. 23.5% respondents preferred *Palm Beach*. *Palm Beach* is generally used by tourists from different countries young and old, who stay in the Palm Beach hotel. This beach is also frequented by the locals as it is highly accessible. *Silver beach* was found to be the third favorite beach according to the respondents (17%), it is a fairly new beach in the region. *EMU beach* club with 12.9% fans is the Eastern Mediterranean University's establishment with a modern setting. *EMU beach club* has fewer respondents because it is only for the members of EMU Staff. The least two favored beaches are *Bogaz* and *Mimoza* which are located outside the city limits.

**Table 7: Respondents' favourite beach in Famagusta and Bogaz region**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| Palm Beach | 40 | 23.5 |
| Glapsides beach | 42 | 24.8 |
| Beach club | 22 | 12.9 |
| Silver beach | 29 | 17.0 |
| Mimoza beach | 17 | 10.0 |
| Bogaz beach | 20 | 11.8 |
| Total | 170 | 100.0 |

| One Way ANOVA | Age | Education | Gender |
|---|---|---|---|
| Sum of Squares | 31.719 | 70.385 | 12.742 |
| df | 4 | 3 | 1 |
| Mean Squares | 7.930 | 23.462 | 12.742 |
| F | 2.925* | 2.531* | 4.591* |

* $p<0.05$

*Safety* was another aspect which was considered in this study. 31.8% of the respondents believed safety to be adequate. However, beaches which are not catering to the hotels have a lack lifeguards. Although respondents indicated, by 43.5%, that parking facilities seemed to be adequate, however, they need a great deal of improvement. Limiting parking space can be a mechanism to limit the number of users and achieve certain degree of carrying capacity implementation.

Cleanliness is another issue, which 30.0% of the respondents found the *cleanliness* of their favorite beaches to be "adequate". Among the respondents, 41.2% of them believe that the *infrastructure* of their favorite beaches is "adequate". Respondents' opinion regarding the natural *beauty* or natural amenities of their favorite beaches happened to be "very good" by 53.5%. Regarding the *over crowdedness*, which relates to the *size*, respondents have an overall positive view as the beaches in north Cyprus are not crowded yet.

The beach activities offered at the moment do not vary that much. However, if various types of activities are enhanced, there will be new kinds of impacts and pressure on these environments.

**Table 8: Respondents' perception regarding the beach quality based on their associated factors**

| | Frequency (*f*) | Percentage (%) |
|---|---|---|
| **Respondents' evaluation on safety** | | |
| Very good | 46 | 27.1 |
| Good | 54 | 31.8 |
| Reasonable | 29 | 17.1 |
| Poor | 30 | 17.6 |
| Very poor | 11 | 6.5 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on parking** | | |
| Very good | 16 | 9.4 |
| Good | 74 | 43.5 |
| Reasonable | 32 | 18.8 |
| Poor | 34 | 20.0 |
| Very poor | 7 | 4.1 |
| Don't know | 7 | 4.1 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on cleanliness** | | |
| Very good | 23 | 13.5 |
| Good | 46 | 27.1 |
| Reasonable | 51 | 30.0 |
| Poor | 41 | 24.1 |
| Very poor | 9 | 5.3 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on infrastructures** | | |
| Very good | 9 | 5.3 |
| Good | 28 | 16.5 |
| Reasonable | 70 | 41.2 |
| Poor | 54 | 31.8 |
| Very poor | 4 | 2.4 |
| Don't know | 5 | 2.9 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on natural beauty** | | |
| Very good | 91 | 53.5 |
| Good | 63 | 37.1 |
| Reasonable | 11 | 6.5 |
| Poor | 3 | 1.8 |
| Very poor | 2 | 1.2 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on size** | | |
| Very good | 43 | 25.3 |
| Good | 80 | 47.1 |
| Reasonable | 30 | 17.6 |
| Poor | 12 | 7.1 |
| Very poor | 5 | 2.9 |
| Total | 170 | 100.0 |
| **Respondents' evaluation on activities** | | |
| Very good | 8 | 4.7 |
| Good | 40 | 23.5 |
| Reasonable | 47 | 27.6 |
| Poor | 52 | 30.6 |
| Very poor | 16 | 9.4 |
| Don't know | 7 | 4.1 |
| Total | 170 | 100.0 |

## Evaluation of respondents about the activities of their favourite beach to be protected or banned

This part evaluates the respondents' perception about the current activities on their favourite beach, and whether those activities should be protected or banned. Such information can guide the coastal planners to coordinate and harmonize the beach profile and structure with the type of activities desired or undesired by the users (see table 8). This type of survey can have implications for the segmenting tourist type and marketing. As tourism is growing in this part of the island, and in the meantime, there is a market among the so called *third age* tourists, it is an efficient approach to identify the activities and its market segment. 'No business or destination community can be all things to all people, and it should not try to be. Rather the destination should segment its potential market into more or less homogenous subgroups, or tourist market segments, based on certain common characteristics and / or behavioural patterns, that they can serve and satisfy' (Murphy and Murphy , 2004).

**Table 9: Respondents' perception about banning or protecting different beach related activities**

| *n* | Protected | Banned | No Opinion |
|---|---|---|---|
| **Respondents' view on spear fishing** | | | |
| 170 | 17 | 75 | 77 |
| **Respondents' view on speed boating** | | | |
| 170 | 130 | 2 | 38 |
| **Respondents' view on scuba diving** | | | |
| 170 | 59 | 15 | 96 |
| **Respondents' view on beach games** | | | |
| 170 | 80 | 12 | 78 |
| **Respondents' view on picnicking** | | | |
| 170 | 25 | 59 | 86 |
| **Respondents' view on camping** | | | |
| 170 | 41 | 35 | 94 |
| **Respondents' view on fishing/angling** | | | |
| 170 | 20 | 50 | 100 |
| **Respondents' view on parachuting** | | | |
| 170 | 76 | 8 | 86 |
| **Respondents' view on jet skiing** | | | |
| 170 | 41 | 59 | 70 |
| **Respondents' view on windsurfing** | | | |
| 170 | 45 | 22 | 103 |

## Carrying capacity policy implications

From a 'sustainability' point of view, this study has tried to pave the way to establish a 'carrying capacity' criterion, as a significant policy agenda, which can be part of the planning process to apply, and will achieve a certain degree of sustainability objectives as intended. The study has explored that, 'carrying capacity' establishment is not necessarily to follow a prescribed pattern or process but to develop a systematic process, as part of tourism/environmental planning, which sets in place the policies to accomplish getting closer to the implementation of a sustainability concept. On this ground, the study has discovered numerous pitfalls. And those pitfalls are hindering the realization of the establishment of a carrying capacity on one hand and not permitting the goals of sustainability to be achieved in the other hand. Therefore, the following precautions need to be considered:

a) No vehicles should be allowed to have access to the beach unless it is an emergency.
b) Every beach should have a parking area constructed at least 500 meters offshore along with proper sign directing beach users to that particular beach.
c) The rapid process of urbanization is going to exacerbate the pressure on the beaches nearby; therefore, precautions should be taken considering the resident's use of the beaches, especially during the peak season.
d) Certain zoning laws are needed to limit the 'bulk' and the 'intensity' of the land use, especially the housing and second home development schemes.
e) Controlling and monitoring the beaches closer to the urban areas not to allow the threshold of the beach capacity to boil over.
f) Littering is a big problem, and various educational programs as well as penalizing the letterers can overcome this problem in the long run.
g) Picnicking and overnight camping must have designated space.
h) The carrying capacities of some of the beaches are highly limited as the hotels are constructed with minimal beach frontage area (e.g. Mimoza beach and Palm Beach). First, there is a need for a planning law to prevent this type of development in the future, secondly, establishments adjacent to each other, can cooperate on sharing the beach front to prevent the overcrowding and over capacity.
i) An overall coastal management plan must be established within which carrying capacity concept can be a factor.
j) Some of the beach activities are geared towards certain age group. And some of these activities are highly noisy (e.g., jet skiing). These activities can be allocated to certain beaches but not to all. This can minimize the conflict of interest by different age groups and the tourist market segment.
k) Last but not least, a compromise must be in place whether to go beyond the capacity and develop extensively, which may not be sustainable, or to apply a properly measured carrying capacity analysis to achieve sustainability. The latter can be achieved if the general landscape character is protected; the coastal communities are involved and accounted for, practices like ribbon development avoided; and disfigurement of the coastal areas is prevented.

## Conclusion

This study aimed to introduce the concept of "carrying capacity" as an important tool to be considered seriously in any planning decision for tourism. The concept is not separable from the theoretical framework of "sustainable development" which has been evolving for the last two centuries (Basiago, 1999). The case of North Cyprus is rather unique in the way it is on the political threshold of either unification or recognition. This is a pivotal point to plan and decide on the future of tourism and the direction tourism should take. This study has explored one of the most important aspects of tourism planning and development (i.e. carrying capacity) as an essential means to achieving sustainable development. Carrying capacity and its practicality may sound vague, but the study demonstrates that it can be analyzed, understood, and practiced towards justifiable goals of protection of non-renewable resources, long-term economic growth and development, environmental stabilization, and pollution prevention.

This study revealed that there are some basic issues associated with the beaches of the Famagusta and Bogaz region which can become a costly threat to the basic natural resources that form the base for tourism in this region. In relation to accessibility, parking facility, accommodation, quality of environment, planning/management, and cleanness of the beaches, the study revealed a lack of proactive planning and apathy towards the 'carrying capacity' analysis. The concept of "urban sustainability" should be considered and contemplated by the planners and a concerted effort should be taken to integrate urbanization, tourism, and resource protection especially in an Island environment as it is more vulnerable to pressure and impact.

This case study and its findings are significant. The public and local authorities, master planners, commercial developers and the North Cyprus Tourism Ministry should be guided by this study's findings. Although the idea of evaluating perception of beach users regarding implications for carrying capacities of the beaches is not a new concept, it is however, new and very timely in evaluating the ever-increasing beach usage within the Famagusta and Bogaz region. The findings of this study will assist and alert public and local authorities to the need for identifying and managing the existing and future beach carrying capacity problems such as over-crowded locations, the lack of adequate sanitation facilities, existing infrastructure improvements and the need to manage new development. This study can also assist future potential entrepreneurs, working in contact with public and local authorities, in ascertaining and identifying likely future development opportunities such as hotels, housing and beach related recreational operations and facilities to apply certain measures towards the adoption of carrying capacity before it is too late. Finally, this case study provides supporting evidence that a monitoring system (i.e., environmental auditing) is needed to incorporate data on carrying capacity with projects for tourism when those projects are still in the planning stages. Unfortunately, some of the pristine beaches in the north are subjected to intense accommodation development, without any carrying capacity measure, and their long-term sustainability are questionable.

Overall, the results suggest that the carrying capacity issue has become an urgent matter to be considered as part of the planning process in order to achieve project sustainability. We believe, through these cumulative factors, carrying capacity establishment could achieve the ultimate goal of developing a sustainable coastal tourism.

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# Bankruptcy Situation Model in Small Business: The Case of Restaurant Firms

By Yang-Huo

*The purpose of this paper is to describe and discuss the current bankruptcy prediction models. This is done in the context of pros and cons of proposed models to determine the appropriate factors or failure phenomenon in cases involving restaurants that have filed for bankruptcy under Chapter 11. A sample of 11 restaurant companies that filed for bankruptcy between 1993 and 2003 were identified from the Form 8-K reported to the Securities and Exchange Commission (SEC). By applying financial ratios retrieved from the annual reports which contain, income statements, balance sheets, statements of cash flows, and statements of stockholders' equity (or deficit) to the Atlman's model, Springate model, and Fulmer's model. The study found that Atlman's model for the non-manufacturing industry provided the most accurate bankruptcy predictions.*

## Introduction

According to Congresswoman Nydia Velazquez (D-NY, 2002), The United States was experiencing one of its worst recessions since World War II. The unemployment rate had grown to 6 percent, with 1.1 million Americans now jobless. Robert Barro (2003) stated, "in the recent slowdown, the unemployment rate increased 2.5 percent points, from 3.9% at its low point in December 2000, to 6.4% in June" (p. 30). In addition, Dun and Bradstreet reported that two thirds of firms that enter the retail trade and services industry do not survive beyond their first five years of operation. Some of the reasons for these failures can be attributed to external environmental factors such as economic woes, a troubled and turbulent economy, highly competitive market conditions, and changes in consumer buying behavior; while others can be attributed to internal environmental factors such as organizational or capital structures (i.e. the degree of financial or operating leverage).

Since bankruptcy rates among small businesses in the U.S. have consistently risen over the past century, the importance of being able to accurately predict and avoid bankruptcy cannot be overstated. Total bankruptcies filed in the calendar year 2002 were 1,577,651, up 5.7 percent from the 12-month period ending December 31, 2001, when filing stood at 1,492,129 (Administrative Office of the Courts, 2003).

A growing body of research (Clark, Foster, Hogan, & Webster, 1997; Darayseh, Waples, & Tsoukalas, 2003; Grice, & Dugan, 2001; Hahnenstein, & Roder, 2003; Khan, 1985; Nishikawa, 2002; Tan, & Dihardjo, H., 2001) indicates that many firms encounter financial difficulties which force some into bankruptcy. An understanding of the mechanisms that lead to bankruptcy is critical to executives of healthy firms because they must know the best way to proceed when their customers or suppliers face the threat of bankruptcy (Brigham, Gapenski, & Ehrhardt, 1999). Owners, operators, investors, and lenders need to be able to identify a company at risk for bankruptcy before they make a decision to invest in and/or alter a company's operating methods. Therefore, they should be interested in any procedure that might help them to identify potential failures. These needs help explain why researchers have attempted to develop a bankruptcy prediction model. As management and practitioners continually seek new and improved prediction models applicable to their firms, discussion and evaluation of bankruptcy models becomes necessary. Specifically, there is a need for the establishment of models appropriate to the restaurant industry.

## Literature Review

Models for predicting bankruptcy have been discussed since the mid 1960's. Beaver (1966), a pioneer of research in business failure, defines business failure or bankruptcy as a business defaulting on interest payments on its debt, overdrawing its bank account, missing preferred dividend payments, or declaring bankruptcy (filing for Chapter 11). In 1968, Edward I. Altman developed a traditional model widely used as a quantitative model for predicting business

failure. Altman used 22 financial ratios from 66 companies: 33 failed and 33 successful. All financial ratios were tested and those that contributed least were discarded. This method was repeated until five financial ratios remained.

**Altman's Model**

$$Zjk = A + W1X1k + W2X2k + W3X3k + \ldots + WnXnk$$

Or

$$Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 0.999X5$$

Where X1 = Working Capital/Total Assets
X2 = Retained Earnings/Total Assets
X3 = EBIT/Total Assets
X4 = MKT. Value Equity/Total Debt
X5 = Sales/Total Assets

All firms having a Z score of greater than 2.99 fall into the "non-bankrupt" sector, while those firms having a Z score below 1.81 are placed in the "bankrupt" sector. The area between 1.81 and 2.99 is defined as the "zone of ignorance" or "gray area" because of the susceptibility for error classification (Altman, 1968).

Fulmer, Moon, Gavin, & Erwin (1984) determined that Altman's Zeta analysis of 1977 used data from large firms, with average total assets of approximately $100 million (no firm had less than $20 million in assets). Furthermore, Fidleman (1995) criticized and cautioned that the sales/total asset ratio is believed to vary significantly by industry, and likely to be higher for merchandising and service firms than for manufacturers, since the former are typically less capital intensive. He determined that non-manufacturers would have significantly higher asset turnover and Z scores. Therefore, Altman recommended the following correction that eliminates the Sales/total assets ratio.

$$Zjk = 6.56X1 + 3.26X2 + 6.72X3 + 1.05X4$$

The predetermined cutoffs for the Z score are as follows:

The firms is failed when its Z score is less than 1.1 and the zone of ignorance is between 1.1 – 2.6, and the firm is not-failed when Z score is greater than 2.6.

Gordon Springate developed a bankruptcy model in 1978. Springate used step-wise multiple discriminate analysis to select four out of 19 popular financial ratios that most accurately distinguished between sound businesses and those that had actually failed. The Springate model takes the following form:

**Springate Model**

$$Z = 1.03X1 + 3.07X2 + 0.66X3 + 0.4X4$$

$Z < 0.862$; then the firm is classified as "failed"

WHERE X1 = Working Capital/Total Assets
X2 = Net Profit before Interest and Taxes/Total Assets
X3 = Net Profit before Taxes/Current Liabilities
X4 = Sales/Total Assets

Springate tested this model using 40 companies and achieved an accuracy rate of 92.5%. As the bankruptcy classification models that had been developed prior to the 1980's used publicly available data on large firms (which were not applicable to smaller firms), Fulmer et al., (1984) used step-wise multiple discriminate analysis to evaluate 40 financial ratios using 60 companies with average assets of $455,000; 30 of these companies had failed, and 30 were successful.

**Fulmer Model**

$$H = 5.528 (V1) + 0.212 (V2) + 0.073 (V3) + 1.270 (V4) - 0.120 (V5) + 2.335 (V6) + 0.575 (V7) + 1.083 (V8) + 0.894 (V9) - 6.075$$

H < 0; then the firm is classified as "failed"

WHERE
V1 = Retained Earning/Total Assets
V2 = Sales/Total Assets
V3 = EBT/Equity
V4 = Cash Flow/Total Debt
V5 = Debt/Total Assets
V6 = Current Liabilities/Total Assets
V7 = Log Tangible Total Assets
V8 = Working Capital/Total Debt
V9 = Log EBIT/Interest

The application of Fulmer's model showed a 98% accuracy rate in classifying the test companies one year prior to failure, and an 81% accuracy rate more than one year prior to bankruptcy. Fulmer suggested that managers of small firms could use the model as an internal control guideline, investors could use it as one criterion in the selection of small firms for their portfolios, and auditors could apply it to small firms with respect to going concern consideration. Koundinya and Puri (K&P) (1992) also proposed a model related to the prediction of bankruptcy using financial risk factors.

**Koundinya & Puri Default Risk Model**

| Level 1 | Level 2<br>**Risk Attributes** | Level 3<br>**Measure of Risk Attributors** | Level 4<br>**Rating of Risk** |
|---|---|---|---|
| Financial Risk | Liquidity Position | • Current Ratio<br>• Cash Flow/Sales Ratio | High |
| | Earning Power | • Net Profit Margin<br>• Return on Investment | Medium |
| | Asset Utilization | • Inventory Turnover<br>• Total Asset Turnover | |
| | Financial Flexibility | • Interest Coverage<br>• Debt Ratio<br>• Debt/Equity Ratio | Low |

Clark, Foster, Hogan and Webster (1997) applied the K&P model to the pharmaceutical industry, predicting the status of 25 ongoing firms, and insisted that K&P may be used alone or in conjunction with results from other models, such as Altman's, to predict a company's risk of possible future bankruptcy.

Kwansa and Parsa (1991), adopted the Giroux and Wiggins' (1984) events approach, to determine business failure. Their study identified events in the bankruptcy process that characterize restaurant companies that had filed for bankruptcy under Chapter 11. They found that net losses, management turnover, loan default, credit accommodation, royalty default, declines in unit sales, and renegotiation of franchise contract were major events that contributed to the bankruptcy process. Gu (1999) determined the possibility of restaurant bankruptcy from 34 sampled firms through three ratios: earnings before interest and taxes (EBIT)/total liabilities, retained earnings/total assets, and total liabilities/total assets. Gu's study is limited in that it does

not provide the coefficient and indicator factors.

Dun & Bradstreet's Business Failure Records shows that the restaurant industry has the highest business failure rates of all segments in the retail trade sector. This high failure rate suggests that there are some common factors that contribute to failure. If models can provide a way of predicting restaurant failure or bankruptcy, restaurant owners and operators can address problems before experiencing a critical failure. By analyzing the information given by Dun & Bradstreet, Business Failure Record, Brigham et al., (1999) determined the causes of business failure as follows: Economic factors, which account for 37.1%, and included industry weakness and poor location; Financial factors, which account for 47.3%, and included too much debt and insufficient capital. The importance of the different factors varies over time, depending on such things as the general state of the economy and interest rate levels. Also, most importantly, failures occur because a number of factors have combined to make the business unsustainable. Signs of potential financial distress generally become evident through ratio analysis long before the firm actually fails. Therefore, researchers use ratio analysis to predict the probability that a given firm will go bankrupt (952).

Previous studies and models have identified a number of accounting dimensions related to the probability of bankruptcy, and have tested and applied these to the manufacturing industry.

Because these studies were limited to the manufacturing industry, it is necessary to analyze and apply the models in the context of the characteristics specific to the restaurant industry.

## The Present Study:

The following three questions were utilized in order to determine the direction of this study: What is the most appropriate entry and exit strategy? Which bankruptcy model is most suitable for the restaurant industry? Are there any other latent functions or factors that impact on restaurant business failure besides the functions or factors described in the concurrent model?

The object of this study is two-fold. First, it is to describe and discuss the current bankruptcy prediction models. This is done in the context of pros and cons to determine the appropriate factors or failure phenomenon in cases involving restaurants that have filed for, or are currently in, Chapter 11 bankruptcy. Second, it is to compare those factors to similar restaurants that are either operating successfully (not in bankruptcy) or are no longer operating due to financial failure. Therefore, the research proposition is as follows: To identify the bankruptcy model that most accurately predicts the bankruptcy of a restaurant.

## Methodology

An initial discussion and comparison of bankruptcy prediction models was accomplished by using content analysis in order to determine each model's pros and cons in the context of its application to restaurants. A failed restaurant was defined as one that has filed for bankruptcy protection with a loss to creditors (Perry, 2001).

The research design for this study is to apply certain financial and accounting ratios to current bankruptcy prediction models to verify the accuracy of these models.

### Sample

The unit of analysis is publicly traded restaurant companies with 5812 SIC codes listed with the Securities and Exchange Commission (SEC). A stratified random sampling method was used in this study. Companies were stratified by industry that was classified into the SIC 5812 code. All 324 publicly traded restaurants companies listed with the SEC were included in the initial screening. The sample data used for this study were drawn from a population of filed bankrupt restaurant companies. In accordance with the requirements of the Securities Exchange

Act of 1934, a company must report the filing of Form 8-K. Form 8-K is the "current report" used to report material events or corporate changes that have previously not been reported by the company in a quarterly report (Form 10-Q) or annual report (Form 10-K). These events or changes are organized into 12 items, including item 3, which indicates Bankruptcy or receivership. The bankrupt group is comprised of all restaurant companies who had filed a bankruptcy petition under Chapter 11 of the National Bankruptcy Act during the period 1993-2003. After reading Form 8-K, financial ratios were obtained from 10-K annual reports of bankrupted restaurant companies, and were evaluated and calculated as described and discussed in the bankruptcy models. One of the strengths of this study is that it compares the company being evaluated with companies in the same industry. The data used in this study was obtained from forms filed with the SEC, having been audited in a proper manner (i.e., CPA) in accordance with SEC regulations. This source produces highly reliable and useable data.

**Measurement Variables**

The variables listed in Table 1 were derived and collected from the bankruptcy models. The ratios were chosen on the basis of (1) popularity in the literature and (2) those observed to be relevant to the objective of this study.

**Table 1: Ratios Used for Verifying the Bankruptcy Model**

Working Capital/Total Assets
Retained Earnings/Total Assets
Earnings before interest and taxes (EBIT)/Total Assets
Market value equity/Par value of debt
Sales/Total Assets
Earnings before Taxes (EBT)/Current Liabilities
EBT/Equity
Cash Flow/Total Debt
Debt/Total Assets
Current Liabilities/Total Assets
Log Tangible Total Assets
Working Capital/Total Debt
Log EBIT/Interest

The working capital/total assets ratio was used to measure the net liquid assets of the restaurant company relative to total capitalization. Current liabilities are subtracted from current assets, and the remainder is divided by the total assets of the restaurant. The retained earnings/total assets ratio is used to measure cumulative profitability over time. As a relatively young restaurant has not had time to build-up cumulative profits, the age of a restaurant company is considered in this ratio. The EBIT/total assets ratio is used in order to measure the true productivity of the restaurant's assets, subtracting any tax or leverage factors (Altman, 1968). The market value of equity/par value of debt ratio is used to determine to what extent the firm's assets can decline in value before liabilities exceed assets, and the firm becomes insolvent (Altman, 1968). Equity is measured by the market value of all shares of stock; and debt includes both current and long-term. The sales/total assets ratio is used to measure capital turnover. Altman (1968) insists that this is one measure of management's capability in dealing with competitive conditions.

**Procedures**

After the name of bankrupt restaurant companies were derived and selected, and ratios were defined, their respective balance sheet, income statement, and statement of cash flow were collected from the annual report, 10-K, which was filed one year prior to bankruptcy.

Composite ratios of each restaurant company were applied to each model. Two of Altman's models were used, with more attention and emphasis given to the non-manufacturing

model.

## Results and discussions

A description of all 11 bankrupted restaurants involved in this study can be found in Table 2. Table 2 shows that years of operation were between four years and 20 years, with the average being 9.45 years. The average asset size of these companies was $200 million, with a range of between $2.4 million and $1,709 million. The number of units of each restaurant company is also shown in Table 2. As can be seen in the table, seven out of eleven, or 64% of restaurant companies, have more company-owned units than franchised units.

**Table 2: Characteristics of Restaurants**

| Restaurant Company | Years of Operation | Asset Size ($, million) | Company Owned Units | Franchised Units |
|---|---|---|---|---|
| A | 8 | 233.0 | 0 | 184 |
| B | 8 | 1,709.0 | 847 | 319 |
| C | 6 | 4.6 | 5 | 8 |
| D | 13 | 121.0 | 40 | 0 |
| E | 20 | 2.7 | 10 | 14 |
| F | 5 | 361.0 | 539 | 2 |
| G | 12 | 77.6 | 91 | 0 |
| H | 9 | 235.0 | 30 | 32 |
| I | 4 | 2.4 | 18 | 31 |
| J | 10 | 100.0 | 73 | 8 |
| K | 9 | 14.0 | 97 | 19 |
| Mean | 9.45 | 260.0 | 158 | 55 |

The ratios retrieved from the financial statements of bankrupt restaurants were applied to each model in order to determine the accuracy of each model.

The Z scores of all 11 restaurants, when applied to Altman's model for non-manufacturing industries, fall below 1.1 (established as the bankrupt sector), with a mean Z score of -11.0384496 (see Table 3).

**Table 3: Z Score of Altman's Model (Non-manufacturing Industry Model)**

| Restaurant | Z score | Variance with Cutoff Point (1.1) |
|---|---|---|
| A | -7.3925100 | 8.49251 |
| B | -2.2296600 | 3.32966 |
| C | -10.5942300 | 11.69423 |
| D | -4.5411200 | 5.64112 |
| E | -22.0202800 | 23.12028 |
| F | -1.6367100 | 2.73671 |
| G | -3.1090800 | 4.20908 |
| H | -9.8775800 | 10.97758 |
| I | -54.5402600 | 55.64026 |
| J | -4.2329800 | 5.33298 |
| K | -1.2486000 | 2.34860 |
| Mean | -11.0384496 | 12.13846 |

Furthermore, the Z scores of all 11 restaurants applied to Altman's model for manufacturing industries fall below 1.8 (established as the bankrupt sector), with a mean Z score of -2.0194869. The major difference between the two models was due to the sales/asset ratio. Three major ratios that contributed to the negative Z score were negative working capital, accumulated deficit (negative retained earnings), and negative earnings before interest and taxes

(EBIT). The accumulated deficit, or negative retained earnings, reflected the cumulative symptoms of bankruptcy (see Table 4).

**Table 4: Z Score of Altman's Model (Manufacturing Industry Model)**

| Restaurant | Z score | Variance with Cutoff Point (2.99) |
|---|---|---|
| A | 0.23405 | 2.75595 |
| B | -0.20913 | 3.19913 |
| C | -2.75713 | 5.74713 |
| D | 0.09696 | 2.89304 |
| E | -1.22197 | 4.21197 |
| F | 1.72870 | 1.26130 |
| G | 1.56505 | 1.42495 |
| H | -3.60555 | 6.59555 |
| I | -22.10149 | 25.09149 |
| J | 0.58635 | 2.40365 |
| K | 3.46979 | -0.47979 |
| Mean | -2.01940 | 5.00948 |

Using firms that have assets totaling less than $10 million, Fulmer et al., presented a model in 1984, in which all restaurants companies analyzed in this study show negative Z scores in the range of -60.32645 to -0.88362. Two major figures that contributed to the negative Z scores were accumulated deficit, or negative retained earnings, and negative earnings before taxes (EBT). The mean variance, with cutoff at 0, for the bankrupt or non-bankrupt shows 10.40004 (see Table 5).

**Table 5: Z Score of Fulmer's Model**

| Restaurant | Z score | Variance with Cutoff Point (0) |
|---|---|---|
| A | -1.74512 | 1.74512 |
| B | -4.85122 | 4.85122 |
| C | -9.22511 | 9.22511 |
| D | -1.68419 | 1.68419 |
| E | -16.15930 | 16.15930 |
| F | -4.67523 | 4.67523 |
| G | -2.49193 | 2.49193 |
| H | -9.96579 | 9.96579 |
| I | -60.32645 | 60.32645 |
| J | -2.39244 | 2.39244 |
| K | -0.88362 | 0.88362 |
| Mean | -10.40003 | 10.40004 |

The application of ratios to the Springate model indicated that one restaurant company (company G) resulted in a Z score of 1.04761, compared to the cutoff point of 0.862, with a -0.18561 variance ratio. In addition, it indicated that the inaccuracy rate of Springate's bankruptcy model was 9%. Even the average variance of all 11 restaurants, with a cutoff Z score of 0.862, showed only 2.818956. This Springate model was the only one that contained inaccuracy in the context of bankruptcy prediction (see Table 6).

**Table 6: Z Score of Springate Model**

| Restaurant | Z score | Variance with Cutoff Point (0.862) |
|---|---|---|
| A | -0.00017 | 0.86217 |
| B | -1.14146 | 2.00346 |
| C | -3.01780 | 3.87980 |
| D | -1.13947 | 2.00147 |
| E | 0.38421 | 0.47779 |
| F | -0.18648 | 1.04848 |
| G | 1.04761 | -0.18561 |
| H | -7.32936 | 8.19136 |
| I | -10.47293 | 11.33493 |
| J | -0.301883 | 1.16388 |
| K | 0.631213 | 0.23079 |
| Mean | -1.956957 | 2.81896 |

By comparing Z scores derived from all four models, in the context of the variance with the model's acceptable cutoff point, Altman's model for non-manufacturing industries showed the highest variance with 12.13846. As the variance indicates the relative strength of the accuracy of the bankruptcy prediction, the higher variance of the Altman model suggests a higher degree of accuracy in the prediction of bankruptcy (see Table 7).

**Table 7: Comparison Analysis of Z Score of Bankrupt Models**

| Restaurants | Altman's Models | | Springate Model | Fulmer Model |
|---|---|---|---|---|
| | Manufacturing | Non-Manufacturing | | |
| A | 0.23405 | -7.39251 | -0.00017 | -1.74512 |
| B | -0.20913 | -2.22966 | -1.14146 | -4.85122 |
| C | -2.75713 | -10.59423 | -3.01780 | -9.22511 |
| D | 0.09696 | -4.54112 | -1.13947 | -1.68419 |
| E | -1.22197 | -22.02028 | 0.38421 | -16.15930 |
| F | 1.72870 | -1.63671 | -0.18648 | -4.67523 |
| G | 1.56505 | -3.10908 | 1.04761 | -2.49193 |
| H | -3.60555 | -9.87758 | -7.32936 | -9.96579 |
| I | -22.10149 | -54.54026 | -10.47293 | -60.32645 |
| J | 0.58635 | -4.23298 | -0.30188 | -2.39244 |
| K | 3.46979 | -1.24860 | 0.63121 | -0.88362 |
| Mean | -2.01949 | -11.03850 | -1.95696 | -10.40003 |
| Mean Variance | 5.00948 | 12.13846 | 2.81896 | 10.40004 |

Therefore, Altman's model for non-manufacturing industries shows the highest degree of accuracy among the four models tried in this study. The evidence indicates that this bankruptcy classification model appears to be quite accurate in predicting a potentially bankrupt restaurant.

## Conclusions and Implications

The purpose of this study was to verify empirically the validity of bankruptcy models. Ratios retrieved from bankrupted restaurant companies were utilized and applied them to the models in question. The development of bankruptcy models has progressed a great deal in the last 15 years. The applicability to many industries has proven the value of accepted bankruptcy models, particularly in the manufacturing industry. Many firms utilize models in order to identify early warning signs of bankruptcy.

Although models show the effectiveness of using financial or accounting ratios for determining the bankruptcy situation, the models do have broader financial applications. The variables used by all models are important in that they illustrate the usage of financial ratios in the bankruptcy model. The technique appears to be particularly applicable to the problem of predicting bankruptcy. Among financial data, working capital, retained earnings, and EBIT are the most critical factors that contribute to bankruptcy.

For restaurants and restaurant companies to remain operative, management must foresee whether the operation can meet the ultimate goal of operation: maximizing the shareholders' wealth. This study provides valuable information for management to use in determining an operation's current situation by applying the appropriate bankruptcy prediction model. In other words, this study endeavors to discover statistically significant relationships and associations of more than a trivial magnitude. Therefore, the results of this study will aid management in staving off the bankruptcy phenomenon. In addition, small business owners, family businesses, and entrepreneurs will benefit from the ability to determine, through this study's findings, the threat of the bankruptcy phenomenon. The best use of this study is as a filter to identify restaurants in the context of operating effectiveness and survival.

Future research addressing the comparative analysis of bankrupt and non-bankrupt restaurant companies, with its application to the bankruptcy models, is recommended in order to determine the accuracy of the model. Furthermore, extension of other bankrupt models is needed to validate the accuracy of possible bankruptcy.

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# Empowering Catering Sales Managers with Pricing Authority

By Vincent P. Magnini and John N. Gaskins

*In the hotel business, catering sales managers often encounter potential clients who expect to negotiate for items such as room rental fees, audiovisual charges, and bartending fees. This article addresses both the advantages and disadvantages of empowering sales managers with the authority to reduce or waive these charges. Thus, hoteliers are advised to extend a structured yield management mindset into the hotel's function-space area.*

## Introduction

There exists at least one truism in the hotel industry: the food and beverage business is competitive. Often when a full-service hotel's restaurant outlets are struggling to break-even, (Brennan, 2000; Whitford, 1999) it is the catering revenues from meeting areas that are relied upon to drive the food and beverage department's bottom line. Nevertheless, the catering sales managers who book this space, continuously encounter customers who expect to negotiate. In the circumstance of business meetings, for example, clients often ask if room rental charges can be reduced, if set-up fees can be waived, or if the use AV equipment can be made complimentary. In the case of an emotionally-laden social event, such as a wedding, customers regularly ask if the bartending fee can be forgone, the champagne toast included, or the cake cutting fee waived.

The question that this article addresses is: Should individual catering sales managers be empowered to make these pricing decisions; or should they be required to obtain permission from the Director of Sales and/or the Director of Food and Beverage before reducing or exonerating a particular fee? This topic has never been explicitly examined in the hospitality literature, but it is a question which begs to be addressed. The issue is managerially relevant because not empowering the catering sales manager with pricing authority may add unnecessary red-tape to the negotiating process; conversely, granting pricing permission may result in sub-optimal revenue generation. Therefore, the purpose of this article is to provide hoteliers with essential guidance in this empowerment decision. To accomplish this purpose, this article first outlines arguments in favor of granting sales managers pricing authority. Second, arguments against delegating pricing authority are detailed. Lastly, in the final sections, hoteliers are encouraged to develop a yield management strategy for hotel meeting and catering space.

### Arguments in Favor of the Delegation of Pricing Authority

First, selected research supports delegating pricing authority because of the salesperson's proximity to the customer. (Lal, 1986; Joseph, 2001; Weinberg, 1975) After all, it is the salesperson that has the most direct contact with the potential catering client. This line of reasoning sustains the notion that the catering sales manager is in the best position to assess the customer's desired benefits and perceived value. In fact, most human communication is non-verbal, (Preston, 2005) and it is the catering sales manager who has the face-to-face interaction with the potential client. For example, the catering sales manager can assess the customer's willingness to buy, in part, through the customer's tone of voice, speed, volume, and inflection. Moreover, the catering sales manager can read the body language in the negotiation process. Table 1 outlines receptive and non-receptive body language in the part of the potential buyer in the negotiating process. As a result of both verbal and non-verbal communication, the catering salesperson can deduce the customer's level of need and willingness to pay. Hence, in a nutshell, because the sales manager has the most contact with the client then some would argue that s/he should be authorized to adjust prices.

**Table 1: Negotiating Body Language***

Receptive Body Language:

- "Yes" motion with the head
- Cocking the head to one side
- Touching the forehead
- Touching the chin
- Uncrossing the legs
- Unbuttoning the suit coat
- Leaning forward
- Moving to the edge of the chair

Non-receptive Body Language:

- Clutching the back of the neck
- Nervous fidgeting
- Placing a hand over one's mouth
- Locking ankles
- Gripping one's wrist
- Crossing arms on chest
- Making a fist
- Point feet toward the door

* ***Note:*** The information in this table is drawn from the following sources: N.M. Henley, *Body Politics* (New York: Simon and Schuster, Inc, 1977); G.I. Nierenberg, *Fundamentals of Negotiating* (New York: Hawthorne Books, Inc, 1973); and M.F. Vargas, *Louder than Words* (Iowa: The Iowa State University Press, 1986).

Second, some experts contend that the salesperson should be granted pricing authority when compensation can be structured that aligns the goals of the firm and the salesperson. (Farley, 1964; Farley and Weinberg, 1975; Lal, 1986; Joseph, 2001; Weinberg, 1975) In other words, the salesperson should be authorized to set prices as long as compensation is based upon the gross margin of the hotel's food and beverage department. According to this reasoning, if the catering sales salesperson's commission is based upon gross margin, then s/he would only lower the price when necessary to win the sale. Often hotels will achieve this objective by aligning the managerial bonus criteria of the catering sales managers and the food and beverage managers.

Third, some argue that delegating pricing authority reduces bureaucracy and expedites the transaction process because the salesperson can decide immediately whether to accept an offer. (Dolan and Simon, 1996) After all, what are the odds that the hotel's Director of Sales or Director of Food and Beverage will be available at the given moment to make a judgment regarding a buyer's offer? Therefore, the enhanced efficiency and transaction speed that can be obtained through pricing empowerment can potentially have two positive effects: 1) the catering salesperson can meet with more clients, and hopefully close more deals; and 2) the speed in closing deals should minimize the time in which customers can change their minds or search for other meeting or catering venues.

Fourth, empowering sales staff with the authority to adjust prices may enhance their job satisfaction. That is, selected studies indicate that employee empowerment is positively correlated with job satisfaction. (Gill, 2001; Nelson, 2003) Likewise, the job satisfaction of the Director of Sales and/or the Director of Food and Beverage may be bolstered through delegating price authority as well. Specifically stated, it is unlikely that either individual would take pleasure in micro-managing the negotiations between each salesperson and client. The

Director of Sales and the Director of Food and Beverage are usually considered members of the hotel's executive committee and their time is typically reserved for higher-order tasks, such as budgeting and forecasting.

**Arguments Against the Delegation of Pricing Authority**

Yet, it is important to note that the previous points in favor of price empowerment are arguable and possess limitations. First, it is not always possible to design a compensation plan that justifies price delegation. (Stephenson, Cron and Fraizer, 1979) This is because salesperson motivation encompasses a complex web of financial and non-monetary factors that vary among individuals. (Brooks, 1989) When catering sales managers are motivated by forces like personal acceptance of the customer or time-off to spend with the family, price delegation can backfire. For example, consider a case in which the catering sales manager wanted to agree upon a contract with a client so that s/he could leave for a weekend vacation. Perhaps the sales manager would be apt to close the deal prematurely in order to commence his/her vacation.

The second contention against empowering sales personnel with pricing authority is that the capability may make the salesperson too compliant when negotiation scenarios surface. (Joseph, 2001; Dolan and Simon, 1996) In other words, the salesperson may feel compelled, either consciously or subconsciously, to reduce price as a safety measure to ensure that the sale is closed. This can result in "sub-optimal tradeoffs between price and effort". (Joseph, 2001) Stated differently, maybe the client would have been willing to pay the full room rental charge or a cake cutting fee? In the hotel business, discounts often give customers a reduced price for services that they were going to purchase anyway. (Quain, 2003) Furthermore, if the client knows that the salesperson has pricing authority, the client may demand a price reduction. In sum, entrusting a catering sales manager in pricing decisions assumes that s/he is a better negotiator than the potential buyer.

Third, delegating pricing authority to sales personnel may result in inconsistent behavior across customers or segments. (Dolan and Simon, 1996) For example, a sizable portion of social catering is won through word-of-mouth. Perhaps, therefore, if the catering sales manager were to waive a fee for one client, another client may demand the same consideration. Also, if clients were to discover price discrepancies after the fact, this may result in feelings of dissatisfaction or resentment. Consumers are generally accepting of paying disparate pricing for sleeping rooms because they have come to realize that yield management systems operate upon the premise of supply and demand. (Kimes, 2002b) Conversely, entrusting individual catering sales managers with ad-hoc pricing authority is quite different than employing highly evolved yield management systems.

The value that a client sees in a catering or meeting operation is based largely on the perceptions of the client. Often in the hospitality industry, consumers use price as an indicator of quality. (Lewis and Shoemaker, 1997) Therefore, the value of a hospitality offering is based largely upon the buyer's mental reference price. The term *reference price* is the standard price against which consumers evaluate the actual prices of the services they are considering. Specifically, the practice of individual sales reps adjusting prices could be detrimental to the firm because it could result in lower reference prices and ultimately reduce the perceived value of catering experience.

Since an integral part of any business negotiation is to create perceived value in the eyes of the potential buyer, (McRae, 1998) the catering sales manager should understand how to do so. One strategy involves checking with an authority figure before granting a price discount. In other words, perhaps a price discount might be perceived as "special" if the client knows that it required the approval of the salesperson's boss. Again, successful negotiating revolves around creating perceived value and, consequently, some buyers may only feel as if they are getting a good deal if the discount has been granted by a higher-up. Hence, this line of reasoning is an

argument against empowering the catering sales rep with the ultimate authority in pricing decisions.

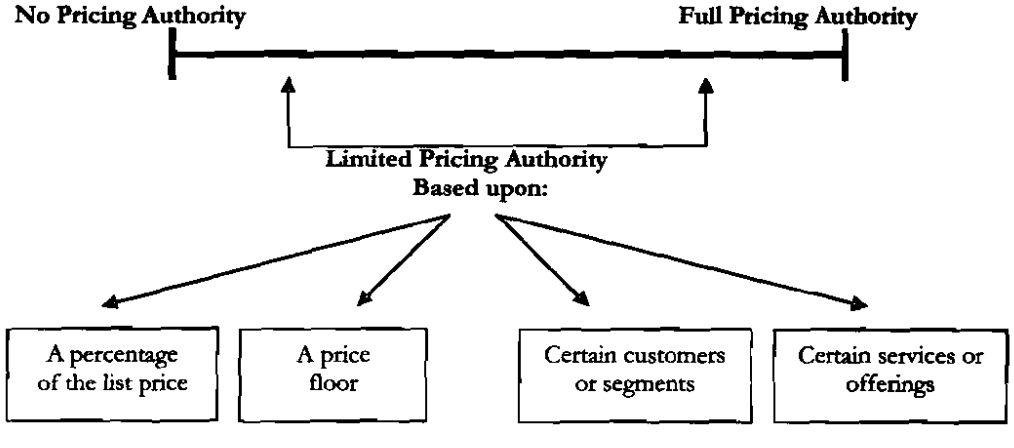
Also, delegating pricing authority to the sales force may be unwise because the setting of an optimal price requires analysis of factors unfamiliar to the sales force. (Dolan and Simon, 1996) That is, meeting and catering services have unique cost structures that involve numerous variables [for example: cost of food, production labor, and set-up costs]. It is not realistic to expect the sales force to be completely familiar with such complex and variable cost structures. For example, it is not possible for the catering sales manager to stay up-to-date with the fluctuating beef, seafood, or produce prices that the food and beverage department is receiving from its vendors. Nevertheless, without this knowledge, it can be argued that when a salesperson adjusts a price, it is being done without vital information.

A final argument against delegating pricing authority is that price empowerment could impact the prospecting activities of the salesperson. Along these lines, a recent study found that increasing pricing authority often decreases a sale rep's prospecting efforts. This diminished prospecting is a result of the fact that full pricing authority leads to a disproportionate focus on high-valuation customers. (Joseph, 2001) This lopsided prospecting pattern can be harmful to food and beverage department because, although high profit customers are advantageous, the hotel's meeting space is perishable and needs to be occupied on slow days by less-profitable groups (e.g. religious organizations on Sundays).

**The Pricing Authority Continuum**

When examining the issue of sales force price empowerment, most early studies took positions either in favor of, (Farley, 1964; Farley and Weinberg, 1975; Weinberg, 1975) or against, (Stephenson and Frazier, 1979) the delegation of pricing authority. However, more recent studies support flexible stances based upon the particular situation. (Joseph, 2001) Stated differently, delegating pricing authority to the catering sales staff is not a binary decision that involves two opposing choices, but rather it is a choice that involves a continuum of alternatives. The continuum ranges from no pricing authority to complete pricing authority, with a spectrum of limited authority scenarios lying in between.

**Figure 1: Pricing Delegation Continuum**



As presented in Figure 1, one limited authority scenario is to base the level of delegation upon the characteristics of the customer or segment. For example, perhaps a catering sales rep should be granted full pricing authority when negotiating with customers about whom s/he has superior information over that of the Director of Sales and Marketing. (Lal, 1986) Conversely, maybe this authority could be reduced when negotiating with a client about whom the catering sales manager and the Director of Marketing have identical information. Also depicted in Figure 1, other limited authority options may include allowing the sales manager to only reduce certain offerings; or to establish a price floor to which a sales manager must adhere. While these examples of limited pricing authority are more advantageous than unchecked empowerment, or no authority, the next section of this article states that pricing options made available to the sales managers should be founded upon the principles of supply and demand.

**Developing a Meeting and Catering Space Yield Management Strategy**

The solution to the debate surrounding whether or not to allow catering sales managers to have pricing authority lies in extending yield management practices to catering and meeting space. Yield management pricing is defined as the charging of different prices to maximize revenue for a set capacity at any given time. (Kerin, Hartley, Berkowitz and Rubelius, 2006) In other words, yield management provides a mechanism for securing higher revenues from a fixed capacity. (Berman, 2005) Yield management pricing is standard practice for lodging rooms and hotel patrons have generally grown accustomed to and accepting of its use. (Kimes, 2002a) In fact, yield management systems are now ubiquitous on the "rooms side" and have been refined continuously throughout the past decade. Such systems should now be utilized to guide catering pricing decisions. That is, hotel properties should employ systems that allow individual catering and sales managers to adjust prices and fees based upon up-to-date supply and demand information.

Yield management practices should be applied to function-space for myriad reasons. First, yield management practices utilize differential pricing to bolster demand during off-peak periods. (Kimes, 2000) Second, yield management policies maintain appropriate prices during busy periods. (Kimes, 2002a) Third, not using yield management and instead using discounting practices that are unstructured and informal encourage haggling. (Hanks, Cross and Noland, 2002) Fourth, allowing only certain catering sales managers to have price empowerment due to individual-level characteristics (e.g. their personality type or negotiating skills) may spur dissension and de-motivation among the sales staff. Lastly, identifiable and explainable pricing practices (based on supply and demand) are perceived as fairer than unstructured rate policies. (Kimes and Wirtz, 2002b) Figure 2, depicts various demand scenarios relative to meeting space capacity, and will be used in this section to demonstrate how yield management can be applied to catering space.[1]

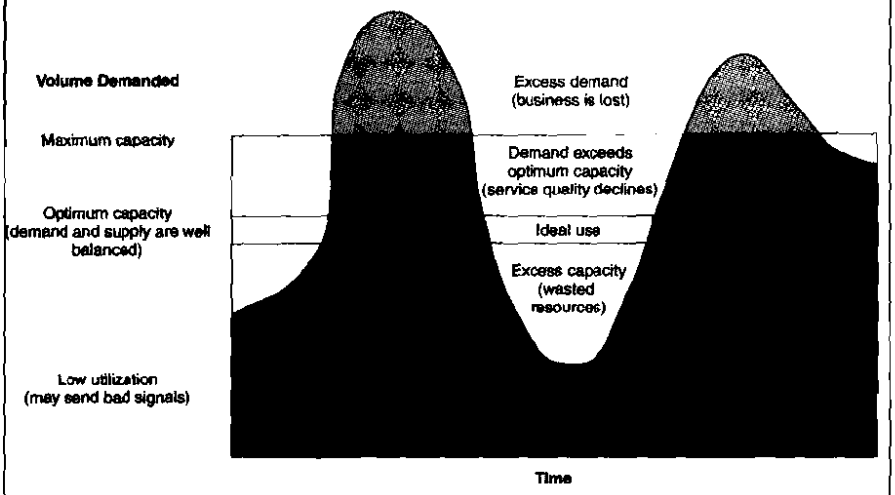
**ZONE 1: Excess Capacity**

In the circumstance of excess capacity (the dip near the bottom center in Figure 2), catering sales managers should be instructed to be more liberal in allowing discounts in order to fill empty space. This process can only be achieved if the sales manager is well informed as to when to expect excess capacity. For example, a catering sales manager could be permitted to discount prices on Mondays because sales history might indicate that few meetings are held on Mondays. Therefore, if a negotiating mood strikes a client, the sales manager could tell the client that in order to realize a monetary savings the client's corporate meeting should be shifted from a Tuesday to a Monday. Also, since catering sales revenues are typically cyclical with the busiest periods being the fall, spring, and December similar savings can be realized by clients if meetings are shifted from busy to slow months. Hence, rather than the sales manager having the

[1] Please note that the specific pricing options listed in this section are intended to be suggestive rather than exhaustive. Further, not all are applicable to every type of hotel property. It would be prudent for sales managers to tailor specific strategies for their given properties.

makeshift authority to discount a meeting contract, instead the sales manager could be versed in the options that could result in a reduced catering check when in excess capacity anticipated (ZONE 1).

**Figure 2: Variation in Demand Relative to Capacity***




* This figure has been adapted directly from the following source: C. Lovelock, Getting the Most Out of Your Productive Capacity," in *Product Plus* (Boston: McGraw Hill, 1994, p.241).

Also, when excess capacity is expected (ZONE 1), and price discounting permitted, sales managers can utilize this pricing authority to amend their prospecting strategies. For instance, perhaps a salesperson is aware of certain price sensitive market segments that can now be approached. Moreover, excess function-space creates an opportunity for "second-chance selling" which entails extracting additional profits from booked business. (Quain, LeBruto and French 1994) For example, there could be a business traveler staying in the hotel who would be willing to rent a break-out room in which to conduct interviews, deliver a sales presentation, or to negotiate on a neutral turf.

**ZONE 2: Ideal Use**

Like the yield management practices for lodging rooms, during ideal use (the narrow band near the center of Figure 2) price discounts are uncommon. Nevertheless, if a potential customer insists upon negotiating the catering sales manager should have several options from which to select. One suggestion may be to instruct the client that if her group could pick-up a certain number of sleeping rooms then the catering space can be discounted. Another option would be for the client to give the chef the ability to pick between two or three menu items and as the event approaches. Consequently, the chef can opt for the best deals in terms of food cost as the market conditions become salient. This same concept could also apply to the selection of wine or beer. Another viable option when demand is not below capacity (ZONE 2), would be to tell the buyer that a price discount could be granted on the current meeting if s/he agrees to booking a second future meeting in a low demand timeframe. The basic premise of these options in ZONE 2 is to empower the sales manager with the capability to negotiate, but also to maintain the integrity of the supply versus demand situation.

**ZONE 3: Demand Exceeds Optimum Capacity**

As seen in Figure 2, when demand exceeds optimum capacity service quality is likely to decline. Therefore, in this high demand scenario (ZONE 3), catering sales managers should

retain the authority to reduce fees, but reductions should be tailored to remove over-strain on food and beverage staff. For instance, if a client demands a discount, the sales manager can instruct the individual that a discount can be granted if she selects the same catering menu as another meeting group in the facility on the same day. This tactic would relieve stress not only on the kitchen staff, but also the purchasing department. In a similar vein, if a client insists upon a discount in a busy time period, the sales manager could permit a discount if the client selects the same meeting room set-up (i.e. table and chair configuration) as the previous room user. Again, negotiating guidelines such as these would afford the sales manager the ability to negotiate, but discounting options are based upon a yield management (i.e. supply and demand) mentality.

**ZONE 4: Excess Demand**

Lastly, the top zone in Figure 2 (ZONE 4) represents the situation in which there is excess demand and business is lost. In this situation of excess demand, the pricing options detailed in ZONE 3 can be made available, but only to the hotel's premier customers. Identifying the premier customers involves computing a customer's lifetime value (CLV). CLV (Berger and Nasir, 1998) is an estimate of (1) how much revenue the service provider expects to gain from the relationship with a consumer and (2) the anticipated cost of maintaining the relationship. Inputs into a CLV equation can include such variables as: quantity of the customer's past purchases; probability of additional purchases over time; and the estimated cost to the firm of serving the customer. While CLV calculations cannot reflect all factors (for example: word-of-mouth behavior is difficult to quantify), they can provide managerial guidance with pricing decisions in ZONE 4.

## Managerial Implications

Since meeting space inventory is, like hotel rooms, a perishable commodity, the need to adjust prices is inescapable. However, this article tells hoteliers that they should not permit sales managers to adjust prices on an ad-hoc basis. Instead, hoteliers should apply yield management practices to catering and meeting pricing. That is, granting individual sales managers with impromptu discretion over pricing decisions has many disadvantages including unwanted and unexplainable price discrepancies between customer groups. Conversely, not empowering catering sales managers with pricing authority has a number of drawbacks such as slowing the transaction process. To this end, what is needed is a structured framework (based upon supply and demand information) that can guide catering sales managers in making pricing decisions.

Yield management computer software systems for catering space do exist. For example, some software systems monitor "contribution per available space" for a given time (ConPAST). (Kimes, 2001) In a nutshell, such systems manage supply relative to demand. It is important to note, however, that this article is not suggesting that hotel properties must purchase and install new computer systems for catering managers. While these systems, (if used properly and to their full potential) can be quite effective, purchasing and training costs are sometimes prohibitive.

As a feasible alternative to installing new computer systems, yield management frameworks can be communicated by making notations in existing meeting planning software. For example, in existing meeting planning software, scenarios can be labeled as ZONE 1-4 and individual sales managers can be versed in the pricing options that they have in these zones. In addition, when sales managers attend their regular sales meetings, supply and demand information can be communicated in order for them to ascertain their pricing options. When employing these procedures, it is vital to note that capacity information must be updated regularly and that new information must be systematically communicated across the sales staff. For instance, a particular date in January may no longer fall into ZONE 1 if business has been booked for a portion of the hotel's meeting capacity. Conversely, a prime catering date in April may not necessarily be categorized in ZONE 4 if the date approaches with no apparent booking interest.

The logic contained in this article must be tempered with a limitation. It is difficult to measure the monetary benefits of yield management through the use of empirical data. Since the shift from standard to yield management pricing is typically not a single transition, before-and-after profit and revenue comparisons are usually not available. In addition, external factors, such as the economy, changes in schedule, and competition can also make it arduous to make comparisons based on rate efficiency or capacity utilization. (See Berman, 2005)

To reiterate, the question that this article addresses is: Should individual catering and sales managers be empowered to make these pricing decisions; or should they be required to obtain permission from the Director of Sales and/or the Director of Food and Beverage before reducing or exonerating a particular fee? Upon detailing both sides to the empowerment issue, this article advances the contention that sales managers should be permitted to adjust prices, but only from within an orchestrated framework based on supply and demand (A.K.A. yield management). To this end, hotel properties can either install catering yield management software systems or can utilize the ZONE 1-4 framework presented in Figure 2.

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# Electronic Channels of Distribution: Challenges and Solutions for Hotel Operators

By: Pearl Brewer, Andrew Hale Feinstein and Billy Bai

*This paper addresses the issues of hotel operators identifying effective means of allocating rooms through various electronic channels of distribution. Relying upon the theory of coercive isomorphism, a think tank was constructed to identify and define electronic channels of distribution currently being utilized in the hotel industry. Through two full-day focus groups consisting of key hotel executives and industry practitioners, distribution channels were identified as were challenges and solutions associated with each.*

## Introduction

In today's global competitive environment, hotel revenue managers need to deal with various methods of distributing their room inventory, including Internet-only rates, distressed room inventory web sites (such as Priceline and Hotwire) and an increasing number of room consolidators or agencies, e.g., Hotels.com, Expedia.com, etc. To achieve their goal of distributing their rooms more effectively requires knowledge and selection of a variety of distribution channels. One challenge is determining the combinations of distribution channels and relative number of hotel rooms to be offered for sale through each channel (O'Connor and Frew, 2004).

The hotel's channel management strategy is the key in determining the outlets for rooms inventory. Hotel revenue managers know that the cost of selling a room through one channel, such as a consolidator, is different from the cost of selling through the front desk, the hotel's website, or through a third party Internet site. The ability to manage and selectively use a multitude of channels is the new focus of hotel managers who now concentrate on how to best select and work with third party intermediaries and channels instead of attempting to eliminate them (Brewer, 2005).

It was this importance of channel management strategy that was at the center of discussions for two focus groups conducted by researchers at the University of Nevada, Las Vegas (UNLV). At these focus group sessions, hoteliers had expressed difficulties in keeping control of their inventory and rates (Brewer, 2005). The focus groups were conducted over a period of nine months and were exploratory in nature. The purpose of the focus groups was twofold: (a) to define the distribution channels and (b) to identify in order of importance, the issues and challenges in electronic hotel room distribution. In addition, the focus group participants identified and discussed the real world barriers and challenges to electronic room distribution and made recommendations of how to overcome each barrier. The research was conducted using focus groups and the data were analyzed using content analysis (Miles and Huberman, 1994) and Yin's (1994) case study methodology.

## Literature Review

### The Evolution of Channel Distribution Strategy

In the last few years, the hotel industry has evolved rapidly in terms of determining and defining inventory and rate management for rooms inventory. In the early 1990's, hoteliers felt that the right approach was to use the rack rate as their basis for determining rate parity (Brewer, Christodoulidou, and Rothenberger, 2005). Based on the rack rate, hotels were able to calculate corporate rates, government rates, and membership rates (e.g., AAA or AARP). In addition, some hotels were offering a large part of their inventory to wholesalers at a pre-negotiated discount (Brewer, Christodoulidou, and Rothenberger, 2005).

But as the Internet evolved, new strategies emerged. Burns (2002) identified that for hoteliers, the goal was to find the "Holy Grail" of rates, which involved a single image of the inventory. The single image inventory referred to managing identical rates and identical availability of these rates throughout all the distribution channels These distribution channels would have included the Central Reservation Offices (CRO), the Global Distribution Systems (GDS), the Web, and even the hotels' front desk. This turned out to be a difficult task.

In the past, hotels revenue managers allocated their sleeping room inventory and assigned their rates based on forecasted demand using yield management techniques. Some elements that were taken into consideration for calculating a rate were local competition, variable cost of rooms, and the demand for guest services in other revenue generating divisions (Norman & Mayer, 1997). However, as the methods of booking changed from the consumer side, it was challenging to determine effective forecasting and change rates appropriately. In addition, each channel negotiated separately for price and room availability. Clearly, the more channels used, the more complex the issues.

Middleton and Clarke (2001) predicted that no single distribution channel would dominate the hospitality market in the future. Hence, hotels would need to use a variety of channels to achieve their goal of distributing their rooms more effectively. Many hotels use high cost channels in order to achieve high occupancies, so they must be very careful about the number of high cost channels they select. For example, if a hotel has an average occupancy rate of over 90%, the revenue managers would probably not choose to use high cost channels to fill the hotel's rooms; they would rather save inventory for last minute walk-ins when they are able to charge a premium for the rooms (Brewer, Christodoulidou, and Rothenberger, 2005).

Others hotel revenue managers would choose to use a third party auction site to sell their last minute availability. In this way, they may increase occupancy at the cost of offering a lower rate. The ability to manage and selectively use a multitude of channels is a priority for hotel revenue managers. Revenue managers now focus on how to carefully select the channels they work with instead of trying to ignore them or eliminate them (Brewer, 2005). This way of thinking through electronic channel management is reinventing the inventory management philosophy.

The Internet and e-mail can be some of the lowest cost distribution methods available. As a result of this, the presence of Internet-only rates has risen to the occasion. Whitford (2000) suggested that a strong website marketing strategy can be inexpensive and can increase a hotel property's competitiveness in a relatively short time. Cline (2001) stated that web enabling sales and marketing tools should include the following elements: virtual property tours, loyalty programs, sales force automation, guest history, revenue management, and campaign management.

To maximize web marketing, hotels and other related parties in the hospitality industry need to gather more and more information about customers in order to improve the service experience and further enhance online marketing and sales efforts in terms of promotions, offers, and last minute sales (Carroll & Siguaw, 2003). Many hotels, and especially hotel chains, offer a best-rate guarantee if the reservation is made directly through their own website (Lomanno, 2003). Others might subscribe to the rate-parity philosophy, which tries to always offer the same rate, regardless of booking methods.

Such rate strategies introduce complex issues, including how many rooms to offer at the Internet-only rate, what booking restrictions should be in place, which website needs to offer a particular rate and how frequently. In addition, there is the decision to be made as to whether or not the hotel will give out this Internet-only rate if someone calls the front desk and requests to book at that rate. Will the hotels still give the Internet rate to the individual calling or should

they lose the customer for that transaction to remain loyal to their principle of offering Internet-only rates only through the web?

Another popular distribution channel is through the use of consolidators. Consolidators can be either web-based or the traditional mode with an 800 number and/or a brick-and-mortar store. Consolidators need to make a minimum nightly room commitment to the hotel and can receive considerable discounted prices from the published rack rate. In the early 1990s, consolidators were very dependent on toll-free telephone numbers for generating revenue (Blum, 1997). While the Internet was constantly evolving, more bookings were moving to online agencies that were inexpensive to operate and were more customer-interactive (Dunn, 2003). While consolidators still exist, most of them utilize a combination of on-line and traditional sales models.

Vialle (1995) defined Global Distribution Systems (GDS) as a technology system used to display services, bookings, and ticketing in tourism globally. GDS and Central Reservation Systems (CRS) are still used by travel agents to book hotel rooms and airline seats. These are the channels traditionally available to travel agents. Travel agents also use custom made websites and toll-free numbers to assist them with their bookings.

There is some discussion in the industry on whether GDS and CRS systems will maintain their popularity in the future. According to Michael Foliot, senior vice president of Galileo International, the GDSs are the dinosaurs of reservation systems and just like the dinosaurs, they would be around for a long time (Emmer, Tauck, Wilkinson, & Moore, 2003). GDS systems in the hotel industry have raised the bar for competitiveness by providing access to more markets, creating new sources of revenue and overall enhancing the booking process (Connolly & Moore, 1995).

### Theoretical Framework

Institutional theory, and in particular, coercive isomorphism, served as underlying theoretical frameworks for this study. Coercive isomorphism is external pressure exerted on organizations to adopt structures, techniques, or behaviors similar to other organizations (Scott, 1987). In this instance, hotels may use electronic channels not because it fits with their strategy but rather due to external pressure in trying to mimic or benchmark competitors (Pringle, 1985) in order to attain corporate success. Scott (1987) argues that in institutional theory, companies need to decide which external parties they can work with. There are often costs as well as gains associated with such choices.

Organizations may have to modify their structures and/or activities in various ways to acquire and maintain the support of external agents; and, at a minimum, they must provide information and access to the representatives of these bodies. Scott (1987) captures the essence of why hotels need to establish a relationship with some of the travel Internet sites. There are often costs and benefits to be considered from going through a relationship, such as between hotels and Internet travel sites. In essence, hotels may have to modify their corporate policies in order to achieve the contractual agreements necessary for this to work.

According to Remenyi and Sherwood-Smith (1999), evaluation is a process where one looks at the value added by specific circumstances. Perhaps that is why there were so many diverse views and opinions on this issue during the focus group discussion. In addition, Middleton and Clarke (2001) stated that it is a big challenge to evaluate electronic channels because of the pace with which electronic channels are evolving.

## Methodology

### Study Setting

The focus groups were conducted in the form of one day sessions that were nine months apart at the University of Nevada, Las Vegas (UNLV) William F. Harrah College of

Hotel Administration and at a hotel in Washington, DC. The duration of each meeting was a full day of participation with expert industry practitioners from the United States and Canada. These experts consisted of hotel operators, vendors of electronic distribution channels, and hospitality technology consultants. The breakdown of each focus group in participation numbers is displayed in Table 1.

**Table 1:**

**Focus-group participants by industry sector**

| Industry | January | September |
|---|---|---|
| Hotel Operators | 25 | 20 |
| Vendors | 25 | 15 |
| Consultants | 4 | 4 |

Each focus group divided the participants into three breakout groups, each group consisting of a balance of operators, vendors, and consultants. A general session introduced participants to the focus group format and their assignment to one of the breakout groups. Groups then convened in separate breakout rooms to proceed with their sessions throughout the day. The meetings focused on channel management issues from the hotel's perspective.

**Focus Group Procedure**

In Session I, each group identified and defined channels of distribution and then prioritized them based on the difficulties that hotels had in managing them. In Session II, all the groups met in a general session. In this session, the groups consolidated the distribution channels and the challenges associated with each channel. The groups then reached consensus by voting to prioritize the consolidated challenges by placing one or more of 5 stickers given to them in an associated space next to a challenge. Participants could place any number of stickers on any particular challenge that they felt represented a significant problem.

In Session II each group was provided with the top ten challenges identified in Session I. Participants first identified ideal solutions to each challenge and then prioritized them. A general session was then held to form a general prioritized list of solutions following the same consolidation and voting procedure as done in Session I.

Session III allowed for each group to identify the real world barriers to the top ten solutions identified in Session Two. Each group then separately discussed how to overcome them.

## Results

### January Focus Group

Session I

When examining the list of channels, it appeared that some groups chose to define distribution channels in more detail, such as Internet distribution sites and corporate websites, while others used more general terms such as Internet and website. Hence, the language used to describe the channels appeared to be the main point of discussion.

Each group spent a considerable amount of time defining the terms they used to describe the channels. Terms such as "opaque" and "transparent" were used to describe how clear the view was from the consumer's side as to who was selling the product. For instance, an "opaque" site would be a site where the consumer does not know what property they are booking whereas a "transparent" site would be a site that clearly delineates the properties offering rooms matching the consumers' inquiry. Sites like Priceline and others could be selling rooms from wholesalers or other third party vendors as well as directly for a property. Other groups identified multiple "merchant models" where the rooms were sold by a provider such as Sabre, Travelocity, Orbitz, and Expedia.

Session II

Following Session I, there was a general session where all the groups came together to consolidate the lists of challenges using the procedures described above. The content analysis identified that losing control of the distribution channels was an important issue to all three groups: hotel operators, hotel vendors, and hospitality consultants. Other major concerns were: non proprietary real time connectivity (i.e., rates may change by the time the customer input his or her method of payment from the time they reserved the room), rate erosion, and rate parity. The top ten, those receiving 10 or more "votes," (Table 2) were then used as the beginning point for Session III.

**Table 2:**

**Top Ten Channel Challenges for the January Focus Group**

| Rank | Top Challenges |
|---|---|
| 1. | Consolidated / non proprietary real time connectivity |
| 2. | Uncontrolled distribution channels |
| 3. | Rate erosion / ADR |
| 4. | Rate parity |
| 5. | Brand erosion |
| 6. | Cannibalization; rate brand, inventory |
| 7. | Channel conversion |
| 8. | Forecasting |
| 9. | Cost of distribution |
| 10. | Customer service |

Session III

Session III began by providing each group with the top ten challenges identified in the general session. The groups were then asked to identify solutions to these challenges. This first look at solutions was to be done without constraints, i.e., in a "perfect world." Therefore questions of cost, or technical feasibility were ignored. Table 3 lists the solutions generated. It appeared that central inventory and rate management, compliance standards, and yield management had received more than half of the total votes, identifying them as the most important items.

**Table 3:**

**Top Ten Channel Perfect World Solutions for the January Focus Group**

| Rank | Top Solutions |
|---|---|
| 1. | Central inventory and rate management |
| 2. | Dynamic online travel agency compliance – standards |
| 3. | Dynamic Yield– fencing |
| 4. | Control by supplier (hotel)including distribution & allocation |
| 5. | E/commerce regulations – full disclosure (contractual) |
| 6. | Total data collection & access to all data including source |
| 7. | Single image inventory |
| 8. | Centralized Operations |
| 9. | Customer segmentation |
| 10. | Education and business process integration |

## September Focus Group

Session I

The September sessions were held in Washington, DC because the participants of the first meeting felt that representation of east coast hotels was not adequate. While the questions were the same, the results were varied. The key terms that were important to all groups were wholesale, GDS, Internet partner, third party and Internet direct. While in the January session, the terms that were discussed were primarily focused on the consumer side, the participants in the September session were focusing on the supply side. This dialogue about GDS systems, wholesale, and partnerships centered on transactions, fees, and supplier relationships rather than the consumers view.

Session II

Following Session I, there was a general session where all the groups came together to consolidate the lists of challenges using the procedures described in the January meeting. It appeared that control of the market place, images, and rate consistency, were viewed as the most important issues. Knowledge of technology was also central to many of the participants. After they prioritized the lists, the three groups came together compiling a master list of issues and challenges. Ten issues/challenges were identified with regard to electronic distribution channels. The same consensus technique was used to create this list as was used in the previous meeting. The important issues identified were control of rate, education of staff, and customer ownership/loyalty which together received more than half of the votes (Table 4).

**Table 4:**

**Top Ten Channel Challenges for the September Focus Group**

| Rank | Top Challenges |
|---|---|
| 1. | Control of rate |
| 2. | Education of staff |
| 3. | Customer ownership/loyalty |
| 4. | Interface (Hotel ←→Channel) |
| 5. | Control of hotel image |
| 6. | Measure return on investment |
| 7. | Control of inventory |
| 8. | Controlling cost |
| 9. | Display bias |
| 10. | Privacy |

Session III

In Session III, the participants looked for solutions to the issues they had previously identified. The groups thought that controlling room rates might be achieved by maintaining rate parity, using point rewards, insuring best price, providing value, maintaining the accuracy of information on the websites, and timeliness of the transaction. Regarding staff, tools that would help with the management and evaluation of channels, and training were listed as potential solutions. Customer loyalty could be achieved by using the enablers described above. Rewards, best rate guarantee, and value added features were believed to be key factors in customer retention. All of these catalysts were thought to be important in maximizing return on investment (ROI). The solutions generated are summarized in table 5.

**Table 5:**
**Top Ten Channel Perfect World Solutions for September Focus Group**

| Rank | Top Solutions |
|---|---|
| 1. | Rate parity |
| 2. | Best price guarantee |
| 3. | Maintaining accuracy |
| 4. | Channel strategies |
| 5. | Education/training programs |
| 6. | Providing value |
| 7. | Timeliness |
| 8. | Reward system |
| 9. | Regain rate control |
| 10. | Communication from channels |

**Discussion**

Connolly and Olsen (2000) suggest that "...information technology is the single greatest force affecting change in the hospitality industry" (p.23). The focus groups that were conducted approached the same topics from different perspectives. The challenges that all groups had in common were as follows: Rate parity, uncontrolled distribution channels, control of inventory, and customer service and loyalty. Each of these challenges is discussed below:

**Rate Parity**

Rate parity refers to consistently maintaining the same rates across distribution channels. This is the main reason why properties want to offer the best rate guarantee (Green, 2006). In this manner, consumers do not need to look everywhere on the internet for a lower rate. Currently, there is not a channel or a website that consistently offers the lowest price. Although many websites advertise best rate guarantee, this is often not the case. This may be due to ineffective technology systems that make it challenging for the rate to be accurately reflected in a transaction. This drives the consumers to spend endless hours searching and comparing sites in the hope of finding the best rate (Brewer, Christodoulidou, and Rothenberger, 2005).

**Control of Distribution Channels**

According to Green (2006), legacy technology causes inconsistency of data between channels until the information is properly directed to the potential customer. The author also states that distribution costs can sometimes be as high as 25% of hotel revenues. Unfortunately, it is infrequent that a property can sell the entire inventory directly at the rack rate and hence various distribution channels are needed to direct and re-direct inventory. Finally, the author recommends that suppliers invest in distribution related technology by determining the distribution costs in developing the distribution strategy.

In a study by Hsieh, Ingram, Wanglee, Warburton, and Weizmann (2006), seamlessness between (a) customer and organization and (b) cost to gain the booking were identified as two of the key issues in the challenges with distribution channels. They also predicted third party Internet sites as one of the most beneficial distribution channels over the next five years.

**Control of Inventory**

Another interesting finding of this study is that control of inventory can be quite challenging. This finding is consistent with existing studies. Green (2006) states that "...some in hospitality dream of a day when there are...single image inventories" (p.27). In addition hotels have begun to employ greater control of their inventory by analyzing how the inventory is distributed and at what rates the sales occur.

According to PhoCusWright (2002), it was estimated that in 2005 the bookings made over a hotel's site would be 53% vs. an OTA (Online Travel Agency) at 47%. Inventory control was identified as one of the key challenges with distribution channels (Hsieh, Ingram, Wanglee, Warburton, and Weizmann, 2006).

**Customer Service and Loyalty**

Loyalty has become a popular issue with OTAs as meta sites, such as TravelAxe, provide consumers with an affinity program that rewards them with points every time they book travel accommodations through the referral system; these rewards can be exchanged for merchandise or free hotel nights. This provides consumers with more flexibility and options to accumulate awards that can be redeemed in any number of properties instead of being tied up to a particular's hotel's program. Connolly and Olsen (2000) state that this "...net effect is further erosion of customer allegiance to any particular...hotel company...provider" (p.31). Suppliers are worried that the loyalty shifts over to the online travel agency instead of the hotel property or the hotel chain.

One of the strategies that hotel suppliers have used to maintain loyalty and to encourage direct bookings with the property is not to allow any frequent stay points to be posted to the guests accounts if they made their reservation through a third party (Green, 2006). This author also recommends that the property should take care of its customers regardless of the channel they have used to experience the property; their actual experience will influence their decision to visit again.

To overcome these challenges, the focus groups suggested that hotels concentrate their efforts on central inventory and rate management, single image inventory, and improve customer relationship management (CRM). These potential solutions are discussed next.

**Inventory and Rate Management**

Hotels are becoming more creative in their attempts to control inventory and rate management. For example, hotel chains are administrating who has access to their low-price inventories and are busy upgrading their own websites (Carroll & Siguaw, 2003). The authors also state that to "...maintain price control, properties and the chains that operate them must structure rates effectively, apply terms and conditions to avoid dilution and arbitrage, monitor competitiveness, and manage rate accuracy and availability" (p.46).

In a survey by Helsel and Cullen (2005) 43 % of the hotels participating in the survey promised the best-rate guarantee on their web site; however, only 25% of these hotels fulfilled their promise.. If the hotel properties carry through their promise of the best-rate guarantee, then they will derive a great benefit from working with travel search sites that are unbiased in their search for results (Helsel & Cullen, 2005). In addition, the authors state that even though the hotel properties want to offer the best-rate guarantee, they would need to build the customer's confidence that they can actually do it. Finally, these authors in their "Nirvana" white paper suggest that for hotel properties to be successful in rate management, they need to implement congruent pricing. Congruent pricing in Helsen and Cullen (2005) is defined as "Maximizing RevPAR and ADR through optimal market segment mix management and distribution channel management via intelligent pricing strategies per segment".

**Customer Relationship Management (CRM)**

Customer Relationship Management appeared to be a very important issue among the participants as a potential solution to the challenges discussed. O'Connor and Frew (2002) view the Internet "...as the ultimate node before the customer". Carroll and Siguaw (2003) found that "electronic operators can, with users' permission, be more intimate in communications, transactions, and information gathering than has formerly been the case". The authors also stated that travel intermediaries can utilize customer preference data in order to recommend to

their customers customized packages that can potentially lead to bookings and increase the look-to-book ratios.

If a hotel property wants to control and have a direct relationship with the customer, then it needs to have a strong partnership and outstanding rate parity (Helsel & Cullen, 2005) in order to own that relationship. This will depend on how the hotel chooses to communicate with the customer once the customer is at the website, how customer information is collected, and how customers experience their hotel stay once they are at the property (Helsel & Cullen, 2005). Finally, the authors state that the customers will book with the party's website that the customers feel they have the most confidence in.

## Conclusion

The study has important industry implications. When new challenges are presented to an industry, it is useful for the different stakeholders to come together to describe, define, and discuss the issues. This helps for those tasked with the responsibility of managing the challenges and solutions. Additionally, the very rich discussion in which the participants were involved helped them frame their particular environment relative to the overall situation. Small chains, large resorts, privately owned properties, vendors and consultants shared the challenges, discussed them, and prioritized solutions to the overall challenges.

The focus groups attempted to predict the "global" picture of what would be important in the future. In addition, the participants stated that there was a need to educate the travel and hospitality industry for the information technology benefits of standards and technology. Moreover, this exploratory research identified challenges and potential solutions in the hotel distribution channels. Industry practitioners and academic scholars need to constantly investigate these critical issues for effective and efficient management of the hospitality distribution channels. It should also be noted that such issues may evolve over time. With the advancement of new information technology and marketing applications, innovative approaches may emerge in the future. What is seen as an issue today may not be a concern for tomorrow.

The present study calls for continued efforts in this stream of research. Even though in Bai, Buxton, Sammons, and Shoemaker (2006) "Limitations of focus groups are they produce qualitative responses that may not be generalized and limited to the number of participants questioned" (p.11), such focus group approaches should be conducted regularly to reflect the most current status of issues of interest. Future research should also examine the importance of distribution channels from the consumer's perspective. While managing hotel distribution channels is purely a business operation, consumer's opinions must be valued because the choice of a distribution channel should reflect the needs and wants of hotel guests.

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# Differential Impacts of Information Technology Services in the Korean Hotel Industry: A Study of Management Perceptions

By A.J. Singh, Hong-bumm Kim, and Chang Huh

*Successful introduction of information technology applications in various operations of hotel management is vital to most service firms. In recent decades, technologies of information, automation, and communication are increasingly recognized as essential components of a hotel company's strategic plan. In this study, 62 super-deluxe hotels (five star), deluxe hotels (four star), and tourist hotels (three star) in Korea are examined for differences in the impact of information technology services on guest' satisfaction, guest convenience, and operational efficiency. The findings generally suggest that the impacts of information technology-enhanced services vary according to the category of hotels in Korea. The results of the study are expected to assist managers in the selection and implementation of information technology systems in their hotels.*

## Introduction

Technologies related to information, communication, and automation has transformed the operation of many organizations in the service industry over the last decade. As Information technology (IT) and technology enabled services and amenities are becoming more pervasive, customers and employees expect these conveniences in hotels as well. The service sector has responded to this revolution, in varying degrees, with significant investments in information technology services. Hotel companies that are sensitive to this continuously changing environment will enjoy a competitive edge. Managers of large properties, for instance, believe that information technology plays a key role in improving the effectiveness of the operations and enhancing customer satisfaction. (Van Hoof, Verbeeten and Combrink, 1996) Therefore, hotels will need to consider IT services which meet and exceed guest expectations at all hotel-guest interfaces, such as public areas, in-room and food and beverage outlets. Furthermore, hotels will need to consider the quality of information technology for all guest managed interfaces such as reservations, check-in, access and ease of information dissemination.

In general information technology services have been introduced in most guest contact and support areas of hotels such as rooms, food and beverage service areas, back office areas, maintenance and operations, and meetings and conventions. Van Hoof et al. (1996) indicated that the most common use of information technology in hotels is concentrated in the front desk, reservations, telephone department, and Management Information System (MIS) functions supported by the accounting department. The food and beverage department and housekeeping are next highest users of technology, and finally, the least computerized and automated department is engineering.

However, there is also a skeptical view on the importance of information technology services in the hotel industry. Cho & Connolly (1996) observed that many hotel managers remained reluctant about the value of investment in information technology services due to their inability to accept the long-term investment return horizons for large scale technology expenditures. This requires strategic vision and commitment to new technology, which will secure future diffusion of benefits through the industry and stakeholders, including customers.

## Literature Review

The service industry literature is deficient in establishing a relationship between the use of information technology and its impact on productivity. In reviewing the application of information technology services within the service industry, it is useful initially to explore the meaning of the term, "technology" as it has a range of definitions.

Kirk and Pine (1998) provided a very broad scope for reviewing technology, covering such topics as building technology, environmental management technology, food production, service

technology, and information technology. Pine (2000) suggested a service-based descriptive definition which refers to technology being regarded as the skills, knowledge and methods for achieving plans in a changing environment, and thus encompasses management systems and techniques as well as the physical artifacts of technology, such as equipment and machines. The definition of technology which relates to the sustenance of the organization and the comfort of the client is more relevant to service, since technology cannot be considered in isolation of people, both within the organization and its customers. They have defined technology as any developments in scientific knowledge and understanding that can be used to improve the products and services of the service industry. (Kirk and Pine, 1998)

In the service industry, not only is technology itself an important factor, but also the way technology is introduced into and is used by organizations is crucial to its successful utilization. The successful utilization of any technology is not only dependent upon its technical aspects, but more so, on the way people interact with and accept the technology. Some previous research recognized the continuing importance of technology in the service industry, reporting that technology was shaping up to be the most significant competitive advantage service firms can have. (Go and Pine, 1995; Go, Pine and Yu, 1994 and 1996) Information technology, for instance, has been viewed to provide not only improved quality and productivity, but also a competitive advantage, especially in service businesses where technology is used to empower employees to better serve customers and to empower customers by making it easier for them to do business with the firm. (Go and Pine, 1995) A research study on the use of information technology indicated that only half of the responding independent hotels in UK used any form of information technology including software and hardware. (Main, 1995) The results revealed that those managers who did not use information technology were generally older and had fewer years of formal education. This might occur because a particular group was less likely to have been exposed to new technology and perhaps was unaware of the advantages it had to offer.

With rapid advances in telecommunications, advancements in computer capabilities, and the development of sophisticated software support the delivery of services, technologies related with computer hardware and software have become a major factor in the operation of service businesses. The convergence of technological applications places knowledge and information at the core of the competitive profile of tomorrow's service enterprise. The premise of this "information age" is that hotel firms in the future will build their success on how much they know about their customers; how they will provide them with information about their products and services, and how they will profitably distribute those products and services in an information-based environment. The focus in this case is building a sustainable competitive advantage by knowing more about what customers, competitors, suppliers, and regulators will do in the future. This combination of future-oriented thinking supported by knowledge-based systems will also require a retrained labor force capable of implementing these systems to add value to the firm. This suggests that the service firm of tomorrow will look and behave differently than what is familiar today. (Olsen and Connolly, 2000)

With the help of computer technologies, most hotels have increasingly pursued a fully integrated and automated property management system which provides hotel management with an effective means with which to monitor and control many front office and back office activities. (Kasavana and Cahill, 2003) Automation has simplified many auxiliary guest services and guest-operated devices such that interfacing auxiliary guest services to a property management system lies in the comprehensive coordination and tracking of guest-related functions. User friendly, guest-operated devices, such as information kiosks, have been located in the public area of many hotels. A research study indicated that guests do not use guest-operated devices effectively, although that sentiment was less strong among managers of properties that had actually installed such devices. (Van Hood, et. al. 1996) A lack of proper training, high turnover rates, and limited financial resources were considered major barriers to the successful

use and implementation of technology services. Nevertheless, training both guests and employees in the use of technology and raising their awareness about its benefit were seen as essential to a property's future competitive position.

In a study conducted by Van Hoof, et al., (1996) found that the size of a property, its level of automation, and its automation history were the main determinants of how lodging managers perceived technology. Managers of large hotel properties appeared to be more comfortable with technology and more appreciative of its benefits than managers of small properties. Technology needs, technology awareness among management and staff, and the use of technology to enhance guest satisfaction all increased with property size. For this reason, this study makes the a priori assumption that there will be a differential impact of technology based services on different categories of hotels. There may be, of course, a danger of technology push, particularly if hotel customers do not have a need for these technology-oriented facilities and devices. Indeed, some research warns against the dangers of infatuation with technology's physical manifestation, such as acquiring machines and equipment simply because they are the most up-to-date or sophisticated models available on the market. In their survey, Van Hoof, et al. (1996) found that customers benefited from improved in-room facilities, but did not always gain full benefit, possibly because of a lack of awareness of how to use them.

## Study Purpose and Research Questions

The major focus of this study was to examine the differential impacts of information technology services between five star (super-deluxe) hotels, four star (deluxe) hotels and three star (tourist) in Korea. The linkage between types of hotels and information technology usage and impacts has never been discussed in previous research for hotels specific to Korea. In particular, the identification of relative importance, and differential impacts based on hotel categories will make a significant contribution to the literature and operational practices in the Asian hotel industry.

The study formulated four research questions to operationalize the construct.

*RQ 1*: Are there differences in how hotel managers perceive the use of technology services in various areas of a hotel?

*RQ 2*: Are there differences in the perceptions of Super Deluxe, Deluxe and Tourist Hotel managers about the effectiveness of employing technology services to increase guest satisfaction?

*RQ 3*: Are there differences in the perception of Super Deluxe, Deluxe and Tourist Hotel managers about the effectiveness of technology services on user convenience?

*RQ 4*: Are there differences in perception of Super Deluxe, Deluxe and Tourist Hotel managers about the effectiveness of employing technology services increase operational efficiency?

## Methods

### Sampling and Procedure

Initially, the researchers were faced with the problem of creating a valid and consistent scale factor of the hotels in the study sample. The hotels in Korea consist of a cross section of relatively small-to-large-sized hotels. For this reason, the sampling frame identified for the study was the Korean Hotel Association (KHA) database, which categorizes hotels based on a "star system." The sample consisted of 62 hotels, which included super-deluxe (five star) hotels (n=21), deluxe (four star) hotels (n=29), and tourist (three star) hotels (n=12) located in Seoul, the capital of Korea. The reason for selecting Seoul as a geographical sample region was that almost half of super-deluxe hotels (40%), one-thirds of deluxe hotels (30%), and one out of five tourist hotels (20%) are located in the study region. The unit of analysis in this study was hotel managers at these properties. The respondent profile consisted of 64.5 percent males and 35.5 percent females. Over two-third of respondents (71%) had between 5 and 10 years experience in hotels, and the remaining (29%) had more than 10 years of work experience at hotels.

A self-administered questionnaire was addressed to the hotel managers who were requested to deliver them to the appropriate managers responsible for implementing information technology services in their respective hotels. The delimitation of this study was a hotel management centric perception of the impact of technology based services on performance. As such, the study was designed with an overtly in-built bias focusing on the management perception of the research questions. The authors recognize that customer perceptions on the same questions may be different from the management perspective, which may be the topic of a separate study. From an initial sample of 100 hotels, which were selected from a list of hotels in the 2003 annual report of KHA, a total of 62 hotels replied to the questionnaire for an effective response rate of 62%. Personal visits to all of the 100 hotels and persistent telephone follow-up were largely responsible for the exceptionally high response rate [1]. At each hotel, a respondent was permitted to complete only one questionnaire.

**Measurement**

The questionnaire consisted of four parts. The first part examined the extent to which the respondents believed each of 20 information technology service variables in the operating departments impacted user satisfaction, convenience, and operational efficiency. The second part measured management feedback on the use of Information technology services in their hotels. Here, all respondents were asked to respond to the extent the 20 technology-based services were incorporated into their guestrooms, F&B areas, meeting and convention facilities, and back-office areas. The survey instrument adopted a five-point Likert-like scale with "1" indicating strong disagreement and "5" indicating strong agreement with the statement. Part three and four of the questionnaire addressed the issue of future investments in technology and socio-demographic profile of the respondents. This article presents results from the first two parts of the questionnaire.

**Data Analysis**

Twenty technology-enhanced service variables were identified, which constituted the specific elements of the hotel's five managerial and operational dimensions. Three performance outcome variables: user satisfaction, perception of convenience, and operational and managerial efficiencies, were also presumed to be closely linked to technology service variables. A categorization scheme of a star system was used to distinguish hotels according to their size and service quality, and was designed to test for differences in the impact of a hotel's technology-based services on satisfaction, convenience and operational efficiency/performance.

To determine which of the 20 technology-enhanced service variables differed significantly in their technology usage across the three different categories of hotels, a one-way ANOVA (analysis of variance) was conducted. Levene's test was applied before drawing valid explanation of the ANOVA test, because the three independent groups exhibited different sample sizes and this may have violated the assumption regarding the homogeneity of variance. In this regard, Kruskal-Wallis test was additionally introduced in case Levene's test showed significant variances across the three independent groups.

**Results and Discussion**

Table 1 summarizes the impact of information technology services on user satisfaction and analyzes differences between hotel categories. Based on management perceptions, it was clear that in-room internet connectivity, in-room cable, internet bookings, energy management systems and copy machine and printers were technology services with the highest impacts on user satisfaction. There was no statistically significant difference in management perception of these impacts between three hotel categories. Furthermore, customer relationship management systems were perceived by Super-Deluxe hotel managers to have higher impact user satisfaction as compared to deluxe and tourist hotel managers. Technology services with perceived differences in user satisfaction between hotel categories were, cell phone rental, voice messaging systems, ATM machines, electronic locking systems and automatic ventilation and management

systems. In each of these applications, super-deluxe hotel managers perceived their impact on user satisfaction, higher than deluxe and tourist hotels.

**{Editor's Note: All tables are located at the conclusion of this article}**

In general, managers at Super Deluxe and Deluxe hotels perceived technology to have a higher impact on user satisfaction as compared with tourist hotels (overall mean: 4.2, 3.8 and 3.5 respectively).

Table 2 summarizes the impact of information technology services on user convenience and analyzes differences between hotel categories. The responses of the impact of information technology services on user convenience are similar to the impact on user satisfaction previously summarized. In room connectivity, cable, internet bookings, energy management systems and copy machine/printers had the highest impact on user convenience based on management responses. However, it was interesting to note that on average, the tourist hotel managers perceived in-room connectivity as higher impact on user convenience than the two other hotel categories. Some of the differences in the management response of impact on user convenience include cell phone rental, voice message systems, e-mail software, and customer relationship management software.

In general, managers at Super Deluxe, Deluxe and Tourist hotels perceived technology to have similar impact on user convenience (overall mean: 4.23, 3.9 and 4.0 respectively).

Table 3 is a summary of the impact of information technology services on operational efficiency. As noted in the table, Super-deluxe hotel managers technologies associated with in-room internet, customer information, waste and energy management with the highest impact on operational efficiency. Tourist hotel managers perceived internet booking applications to have the highest impact, followed by customer information systems. Applications that scored high across all three categories included customer management systems, automatic ventilation and waste management, copy machines and in-room connectivity. Overall, there was more similarity of responses among managers on the question of information technology services impacting operational efficiency. Voice messaging systems were perceived to have a higher impact by Super-deluxe hotel managers compared to the tourist hotels.

In general, managers at Super Deluxe, Deluxe and Tourist hotels perceived technology to have similar impact on operational efficiency (overall mean: 4.2, 3.9 and 3.9 respectively).

As shown in Table 4, the use of information technology services is widely different between the three hotel categories in Korea. The results reflected in ANOVA indicated that statistically significant variations existed in the degree of technology usage between the three hotel categories, with the exception of "Remote check-in and check-out," and "Electronic management card." The results also indicated that super-deluxe hotels (overall mean: 3.68) exhibited highest usage pattern in information technology services in all five aspects of hotel services, whereas tourist hotels had considerably less information technology services, with an overall mean of 1.94.

The two most popular uses of in-room information technology applications in Korean super-deluxe and deluxe hotels are in-room communication (modem/Internet access) and cable television. Based on the market served, tourist hotels, not surprisingly, had negligible (mean: 1.41) use of in-room Internet or modem services. On the other hand, the only in-room information technology services used in tourist hotels is cable television (mean: 3.41).

The least used in-room technology application at super-deluxe and deluxe hotels is the in-room fax (mean: 2.90 and 1.55, respectively). As guests are relying more on Internet based communication mediums, the low use of in-room faxes is not surprising. Based on the results, in-room technology applications at tourist hotels in Korea is almost non-existent, with mean responses of less than 2.0 for all in-room applications, with the exception of the TV.

Remote check-in and check-out was less utilized across all three hotel categories, with no statistically significant difference (mean: 2.0, 1.58, 1.25, respectively). These devices are typically located in the hotel lobby and can also be accessed through guestroom televisions or telephones.[11] Based on the results of the study, it appears that Korean hotels still value personalized service, with regard to the initial guest contact (check-in) and departure process (check-out). In recent years, remote check-in and check-out applications, such as self check-in kiosks, and Interactive TV's are increasing at U.S. hotels serving business travelers. The value of these applications is seen in their efficiency as they reduce the time it takes to process guest registrations, check-ins, and check-outs.

For Internet booking, super-deluxe (five star) and deluxe hotels (four star) that compose most international chain hotels in Korea, more managers indicated stronger agreement that they utilized this technology for reservations at their hotels (mean: 4.04 and 3.82, respectively) as compared to tourist hotels (mean: 2.50). Tourist hotels are primarily independent hotels catering to the domestic market. They rely on the traditional distribution channels such as travel agencies and direct phone reservations.

With regard to food and beverage technology applications, wireless applications are almost non-existent in Korean hotels. Managers at super-deluxe hotels were neutral in their response (mean: 3.0) as to the use of this technology, while this was almost non-existent at tourist hotels (mean: 1.0).

Wide differences exist between hotel categories with regard to the use of information technology for back office applications. The two most used back office applications at super-deluxe and deluxe hotels are e-mail and customer information systems. As with other hotel services, tourist hotels do not use much information technology to support their back office functions.

The two most common uses of maintenance and operations functions in Korean hotels are to support physical facilities such as ventilation, waste and energy management. While there were statistically significant differences in the patterns of usage between hotel categories, the mean scores indicated agreement among hotels, in particular super-deluxe and deluxe hotels. Electronic locking systems and ATM machines are also commonly used in super-deluxe and deluxe hotels. With the exception of energy management systems, in general tourist hotels do not use information technology to support these operations.

## Conclusion

After synthesizing the usage patterns (Table 4) with the performance variables (Tables 1-3), it was logical to expect a relationship between the impact of the technology application and actual usage patterns in Korean hotels. If the technology was deemed to provide user satisfaction, convenience or operational efficiency, we expected to see a higher usage. This relationship was not consistent across all hotel technologies and hotel categories. In general we found the gap between usefulness of technology and actual usage to be higher across all technological applications in the deluxe and tourist hotels, when compared to the super-deluxe hotels.

With regard to room applications, we found gaps in the performance means and actual usage of technology applications such as in-room fax, remote check-in, cell phone rental, and interactive TV guide. In each case, the technology was perceived to either provide user satisfaction, convenience or operational efficiency but had low mean scores for utilization. While wireless applications were seen as providing operational efficiency, its actual usage varied from neutral in super-deluxe hotels to non-existent in tourist hotels.

The back office applications indicated a much stronger relationship between the usefulness of the technology (impact) and actual usage in super-deluxe hotels. The highest effect of these applications, as indicated previously, was on operational efficiency and there was consistent

agreement on their use in these hotels. On the other hand, as with other applications, while managers at tourist hotels find these applications useful (high impact on operational efficiency), in actual practice very few hotels use these technologies.

In the case of maintenance and operations technology we found a closer match between impact and usage for super-deluxe and deluxe hotels as compared to the tourist hotels. The only application that had some consistency between impact and usage in tourist hotels was energy management systems. Finally, while video conferencing was perceived to be useful in providing convenience, hotels across all three categories do not use this technology.

We believe that the remaining parts of our study, and the data collection process used throughout, will, hopefully, shed more light on the subject, and will be of use to the Korean Hotel Industry. The techniques incorporated in this study can be used in studies concerning the differential impacts of information technology services in other countries as well. This is an area of research with broad application throughout the hospitality industry.

**Table 1: Impact of Technology on User Satisfaction**

| Technology-Enhanced Services In Hotel Management[a] | | Types of Hotels | | | One-Way ANOVA F ($p$) [c] | Levene Test $\chi^2$ ($p$) [d] | Kruskal-Wallis Test $\chi^2$ ($p$) [e] |
|---|---|---|---|---|---|---|---|
| | | Super-deluxe Hotels (Five Star) $n=21$ | Deluxe Hotels (Four Star) $n=29$ | Tourist Hotels (Three Star) $n=12$ | | | |
| ROOM | In room modem/Internet hook-Up | 4.62 [b] | 4.24 | 4.33 | **1.283 (.285)** | 1.060 (.358) | 3.504 (.173) |
| | In room cable/satellite Broadcasting | 4.57 | 4.38 | 4.25 | **1.163 (.319)** | 1.457 (.241) | 4.730 (.094) |
| | In room fax | 3.76 | 3.38 | 3.42 | **.681 (.510)** | 1.631 (.204) | 1.141 (.565) |
| | Remote check-in and check-Out | 3.67 | 3.59 | 3.25 | **.609 (.547)** | 2.977 (.059) | 1.495 (.473) |
| | Internet booking | 4.43 | 4.24 | 3.75 | **3.945 (.025)*** | .345 (.710) | 7.302 (.026)* |
| | Cell-phone rental | 3.95 | 3.24 | 3.08 | **4.535 (.015)*** | 2.910 (.062) | 8.572 (.014)* |
| | Interactive TV guide | 4.10 | 3.62 | 3.42 | **3.065 (.054)** | .112 (.894) | 5.298 (.071) |
| | Voice-mail system | 4.19 | 3.38 | 3.17 | **5.421 (.007)*** | .254 (.777) | 10.911 (.004)** |
| F&B | Wireless POS | 4.00 | 3.41 | 3.08 | **2.732 (.073)** | .718 (.492) | 6.126 (.047)* |
| Back-Office | E-mail correspondence and Communication | 4.33 | 3.90 | 3.75 | **1.792 (.176)** | .006 (.994) | 4.333 (.115) |
| | Electronic file transactions/ Documentation | 3.76 | 3.34 | 2.75 | **3.282 (.045)*** | 1.369 (.262) | 8.615 (.013)* |
| | Real time data logging/auto display mode | 4.14 | 3.79 | 2.91 | **4.746 (.012)*** | 2.111 (.130) | 9.793 (.007)* |
| | Customer information management system | 4.52 | 4.03 | 3.42 | **4.894 (.011)*** | .515 (.600) | 10.573 (.005)* |
| Maint-enance & Opera-tion | ATMs (Automatic Teller Machines) | 4.33 | 3.55 | 2.92 | 6.311 (.003)** | 4.374 (.017)* | **12.563 (.002)**** |
| | Electronic locking system | 4.14 | 4.03 | 3.25 | **2.651 (.079)** | .758 (.473) | 7.500 (.024)* |
| | Electronic management card | 3,86 | 3.76 | 3.42 | **.747 (.478)** | 2.267 (.113) | 2.247 (.325) |
| | Automatic ventilation and waste management system | 4.43 | 3.90 | 3.50 | **4.716 (.013)*** | 1.430 (.248) | 12.326 (.002)** |
| | Energy management system | 4.52 | 4.28 | 3.92 | **1.897 (.159)** | .898 (.413) | 8.108 (.017)* |
| Conv-ention | Remote teleconferencing/ video meeting system | 4.00 | 3.45 | 3.58 | **1.056 (.354)** | 2.478 (.093) | 1.721 (.423) |
| | Copy machine & Printer | 4.52 | 4.10 | 4.25 | **1.762 (.181)** | 2.478 (.157) | 4.804 (.091) |

a. One-way ANOVA routine in SPSS was employed to analyze mean differences in three types of hotels.

b. Mean scored based on a 5-point scale where 1 equals strongly disagree, 2 equals disagree, 3 equals neutral, 4 equals agree, and 5 equals strongly agree. Overall means of each hotel are 4.2 (super-deluxe hotel), 3.8 (deluxe hotel), and 3.5 (tourist hotel).

c. Statistic for testing mean differences between subjects in One-way ANOVA

d. Test statistic of homogeneity for variances in three independent groups.

e. Corrected non-parametric test for testing mean differences in case the homogeneity variance assumption is not satisfied.

*, **, *** refer the corresponding statistic is significant respectively under $\alpha$ = .05, .01, and .001.

**TABLE 2: Impact of Technology on Convenience**

| Technology-Enhanced Services In Hotel Management[a] | | Types of Hotels: Super-deluxe Hotels (Five Star) n=21 | Deluxe Hotels (Four Star) n=29 | Tourist Hotels (Three Star) n=12 | One-Way ANOVA F (p) [c] | Levene Test $\chi^2$ (p) [d] | Kruskal-Wallis Test $\chi^2$ (p) [e] |
|---|---|---|---|---|---|---|---|
| ROOM | In room modem/Internet hook-Up | 4.71[b] | 4.38 | 4.91 | 3.041 (.055) | 7.533 (.001)*** | **7.101 (.029)*** |
| | In room cable/satellite Broadcasting | 4.57 | 4.31 | 4.67 | **1.609 (.209)** | .855 (.430) | 5.237 (.073) |
| | In room fax | 4.10 | 3.48 | 4.25 | **2.776 (.070)** | 1.626 (.205) | 5.491 (.064) |
| | Remote check-in and check-Out | 4.00 | 3.72 | 3.33 | **1.782 (.177)** | 2.443 (.093) | 3.803 (.149) |
| | Internet booking | 4.48 | 4.21 | 4.33 | **.559 (.575)** | 1.419 (.250) | 1.246 (.536) |
| | Cell-phone rental | 4.10 | 3.55 | 3.42 | **3.605 (.033)*** | .212 (.810) | 6.952 (.031)* |
| | Interactive TV guide | 4.29 | 3.62 | 4.17 | **5.467 (.007)*** | .309 (.736) | 10.445 (.005)* |
| | Voice-mail system | 4.38 | 3.59 | 3.67 | **4.658 (.013)*** | .579 (.563) | 10.777 (.005)* |
| F&B | Wireless POS | 4.00 | 3.59 | 3.50 | **1.122 (.332)** | 1.428 (.248) | 2.045 (.360) |
| Back-Office | E-mail correspondence and Communication | 4.48 | 3.86 | 3.92 | **3.379 (.041)*** | .187 (.830) | 7.485 (.024)* |
| | Electronic file transactions/ Documentation | 3.81 | 3.62 | 3.00 | **2.460 (.094)** | .616 (.543) | 5.256 (.072) |
| | Real time data logging/auto display mode | 4.00 | 3.86 | 3.67 | **.369 (.693)** | 1.522 (.227) | 2.001 (.368) |
| | Customer information management system | 4.48 | 4.21 | 3.75 | **3.684 (.031)*** | 1.729 (.186) | 7.150 (.028)* |
| Maint-enance & Opera-tion | ATMs (Automatic Teller Machines) | 4.52 | 3.83 | 4.00 | **3.611 (.033)*** | 1.249 (.294) | 6.607 (.037) |
| | Electronic locking system | 4.19 | 4.10 | 4.08 | **.064 (.938)** | 1.175 (.316) | .465 (.793) |
| | Electronic management card | 3.81 | 3.86 | 3.58 | **.262 (.770)** | 1.412 (.252) | .708 (.702) |
| | Automatic ventilation and waste management system | 4.38 | 4.07 | 4.33 | .965 (.387) | 4.494 (.015)* | **5.664 (.059)** |
| | Energy management system | 4.57 | 4.38 | 4.33 | **.547 (.582)** | .628 (.537) | 1.790 (.409) |
| Conv-ention | Remote teleconferencing/ video meeting system | 4.10 | 3.90 | 4.00 | **.229 (.796)** | 1.897 (.159) | .229 (.892) |
| | Copy machine & Printer | 4.48 | 4.21 | 4.58 | 1.586 (.213) | 3.237 (.046)* | **2.162 (.339)** |

a. One-way ANOVA routine in SPSS was employed to analyze mean differences in three types of hotels.

b. Mean scored based on a 5-point scale where 1 equals strongly disagree, 2 equals disagree, 3 equals neutral, 4 equals agree, and 5 equals strongly agree. Overall means of each hotel are 4.3 (super-deluxe hotel), 3.9 (deluxe hotel), and 4.0 (tourist hotel).

c. Statistic for testing mean differences between subjects in One-way ANOVA

d. Test statistic of homogeneity for variances in three independent groups.

e. Corrected non-parametric test for testing mean differences in case the homogeneity variance assumption is not satisfied.

*, **, *** refer the corresponding statistic is significant respectively under $\alpha$ = .05, .01, and .001.

## TABLE 3: Impact of Technology on Operational Efficiency

| Technology-Enhanced Services In Hotel Management[a] | | Types of Hotels | | | One-Way ANOVA F (p) [c] | Levene Test $\chi^2$ (p) [d] | Kruskal-Wallis Test $\chi^2$ (p) [e] |
|---|---|---|---|---|---|---|---|
| | | Super-deluxe Hotels (Five Star) *n=21* | Deluxe Hotels (Four Star) *n=29* | Tourist Hotels (Three Star) *n=12* | | | |
| ROOM | In room modem/Internet hook-Up | 4.67[b] | 4.00 | 4.17 | **4.758 (.012)*** | .005 (.995) | 10.460 (.005)* |
| | In room cable/satellite Broadcasting | 4.38 | 3.97 | 4.08 | **1.807 (.173)** | 2.013 (.143) | 3.721 (.156) |
| | In room fax | 3.86 | 3.52 | 3.92 | **1.063 (.352)** | 2.831 (.067) | 1.905 (.386) |
| | Remote check-in and check-Out | 3.62 | 3.62 | 4.00 | **.530 (.591)** | 1.474 (.237) | .955 (.620) |
| | Internet booking | 4.24 | 4.21 | 4.67 | 1.119 (.334) | 3.457 (.038)* | **3.081 (.214)** |
| | Cell-phone rental | 3.67 | 3.41 | 2.92 | 2.241 (.115) | 8.988 (.000)*** | **5.507 (.064)** |
| | Interactive TV guide | 4.05 | 3.62 | 3.58 | **1.556 (.219)** | .819 (.446) | 4.359 (.113) |
| | Voice-mail system | 4.43 | 3.52 | 3.67 | **6.673 (.002)***** | .713 (.494) | 11.644 (.003)*** |
| F&B | Wireless POS | 4.10 | 3.90 | 4.25 | **.558 (.576)** | .641 (.530) | 1.223 (.543) |
| Back-Office | E-mail correspondence and Communication | 4.43 | 3.93 | 4.17 | **2.907 (.063)** | 2.200 (.120) | 6.004 (.050) |
| | Electronic file transactions/ Documentation | 4.14 | 3.72 | 3.25 | **3.777 (.029)*** | 1.221 (.302) | 7.317 (.026)* |
| | Real time data logging/auto display mode | 4.10 | 3.86 | 3.67 | **.960 (.389)** | .793 (.457) | 2.230 (.328) |
| | Customer information management system | 4.62 | 4.24 | 4.42 | **1.889 (.160)** | .860 (.428) | 4.160 (.125) |
| Maint-enance & Opera-tion | ATMs (Automatic Teller Machines) | 4.14 | 3.76 | 3.67 | **1.219 (.303)** | 3.205 (.048) | 2.667 (.264) |
| | Electronic locking system | 4.19 | 4.17 | 3.67 | **1.506 (.230)** | .646 (.528) | 5.005 (.082) |
| | Electronic management card | 4.33 | 4.03 | 3.83 | **1.515 (.228)** | 1.248 (.295) | 3.787 (.151) |
| | Automatic ventilation and waste management system | 4.48 | 4.21 | 4.08 | **1.081 (.346)** | .270 (.764) | 2.432 (.296) |
| | Energy management system | 4.67 | 4.48 | 3.92 | **5.249 (.008)*** | 2.980 (.059) | 11.696 (.003)*** |
| Conv-ention | Remote teleconferencing/ video meeting system | 4.00 | 3.48 | 3.25 | **2.039 (.139)** | 1.283 (.285) | 4.356 (.113) |
| | Copy machine & Printer | 4.48 | 4.34 | 4.08 | **1.134 (.329)** | 1.655 (.200) | 2.669 (.263) |

a. One-way ANOVA routine in SPSS was employed to analyze mean differences in three types of hotels.

b. Mean scored based on a 5-point scale where 1 equals strongly disagree, 2 equals disagree, 3 equals neutral, 4 equals agree, and 5 equals strongly agree. Overall means of each hotel are 4.2 (super-deluxe hotel), 3.9 (deluxe hotel), and 3.9 (tourist hotel).

c. Statistic for testing mean differences between subjects in One-way ANOVA

d. Test statistic of homogeneity for variances in three independent groups.

e. Corrected non-parametric test for testing mean differences in case the homogeneity variance assumption is not satisfied.

*, **, *** refer the corresponding statistic is significant respectively under $\alpha$ = .05, .01, and .001.

**TABLE 4: Use of Information Technology Services by Hotel Category**

| Technology-Enhanced Services In Hotel Management | | Types of Hotels: Super-deluxe Hotels (Five Star) *n=21* | Deluxe Hotels (Four Star) *n=29* | Tourist Hotels (Three Star) *n=12* | One-Way ANOVA F (*p*) [c] | Levene Test $\chi^2$ (*p*) [d] | Kruskal-Wallis Test $\chi^2$ (*p*) [e] |
|---|---|---|---|---|---|---|---|
| | In room modem/Internet hook-Up | 4.28 [b] | 3.93 | 1.41 | **33.902 (.000)***** | 1.046 (.358) | 25.876 (.000)*** |
| | In room cable/satellite Broadcasting | 4.61 | 4.10 | 3.41 | **6.021 (.004)**** | .361 (.698) | 16.042 (.000)*** |
| | In room fax | 2.90 | 1.55 | 1.25 | 10.253 (.000)*** | 5.134 (.009)** | **16.285 (.000)***** |
| | Remote check-in and check-Out | 2.00 | 1.58 | 1.25 | **2.216 (.118)** | 1.990 (.146) | 6.163 (.046)* |
| | Internet booking | 4.04 | 3.82 | 2.50 | 6.303 (.003)** | 10.947 (.000)*** | **5.873 (.053)** |
| | Cell-phone rental | 2.66 | 2.03 | 1.41 | 3.875 (.026)* | 5.709 (.005)** | **6.541 (.038)*** |
| | Interactive TV guide | 3.28 | 2.48 | 1.33 | 7.689 (.001)*** | 9.887 (.000) *** | **13.030 (.001) ***** |
| | Voice-mail system | 3.52 | 2.00 | 1.00 | 13.000 (.000) *** | 18.332 (.000) *** | **19.301 (.000) ***** |
| F&B | Wireless POS | 3.09 | 2.55 | 1.00 | 7.716 (.001) *** | 21.514 (.000) *** | **14.630 (.001) ***** |
| Back-Office | E-mail correspondence and Communication | 4.33 | 3.75 | 2.33 | **9.841 (.000) ***** | 1.911 (.157) | 16.355 (.000) *** |
| | Electronic file transactions/ Documentation | 3.66 | 2.17 | 1.41 | **13.257 (.000) ***** | 1.908 (.157) | 17.849 (.000) *** |
| | Real time data logging/auto display mode | 3.61 | 2.17 | 1.41 | **12.825 (.000) ***** | 2.782 (.070) | 17.772 (.000) *** |
| | Customer information management system | 4.57 | 3.96 | 2.25 | **16.674 (.000) ***** | 2.725 (.074) | 23.032 (.000) *** |
| Maint-enance & Opera-tion | ATMs (Automatic Teller Machines) | 3.95 | 2.82 | 1.25 | 13.413 (.365) | 15.409 (.000) *** | **19.938 (.000) ***** |
| | Electronic locking system | 3.61 | 3.48 | 1.50 | 7.412 (.001) *** | 6.257 (.003) ** | **11.286 (.004) **** |
| | Electronic management card | 3.38 | 3.10 | 3.08 | **.214 (.808)** | 1.543 (.222) | .740 (.691) |
| | Automatic ventilation and waste management system | 4.33 | 3.58 | 2.91 | **5.146 (.009) **** | .235 (.791) | 12.081 (.002) ** |
| | Energy management system | 4.66 | 4.51 | 3.75 | **6.365 (.003) **** | 1.084 (.345) | 14.269 (.001) *** |
| Conv-ention | Remote teleconferencing/ video meeting system | 2.52 | 1.44 | 1.00 | 10.365 (.000) *** | 67.064 (.000) *** | **13.142 (.001) ***** |
| | Copy machine & Printer | 4.76 | 4.68 | 3.41 | 11.893 (.000) *** | 12.505 (.000) *** | **16.592 (.000) ***** |

a. One-way ANOVA routine in SPSS was employed to analyze mean differences in three types of hotels.
b. Mean scored based on a 5-point scale where 1 equals strongly disagree, 2 equals disagree, 3 equals neutral, 4 equals agree, and 5 equals strongly agree. Overall means of each hotel are 3.7 (super-deluxe hotel), 3.0 (deluxe hotel), and 1.9 (tourist hotel).
c. Statistic for testing mean differences between subjects in One-way ANOVA
d. Test statistic of homogeneity for variances in three independent groups.
e. Corrected non-parametric test for testing mean differences in case the homogeneity variance assumption is not satisfied.
*, **, *** refer the corresponding statistic is significant respectively under $\alpha$ = .05, .01, and .001.

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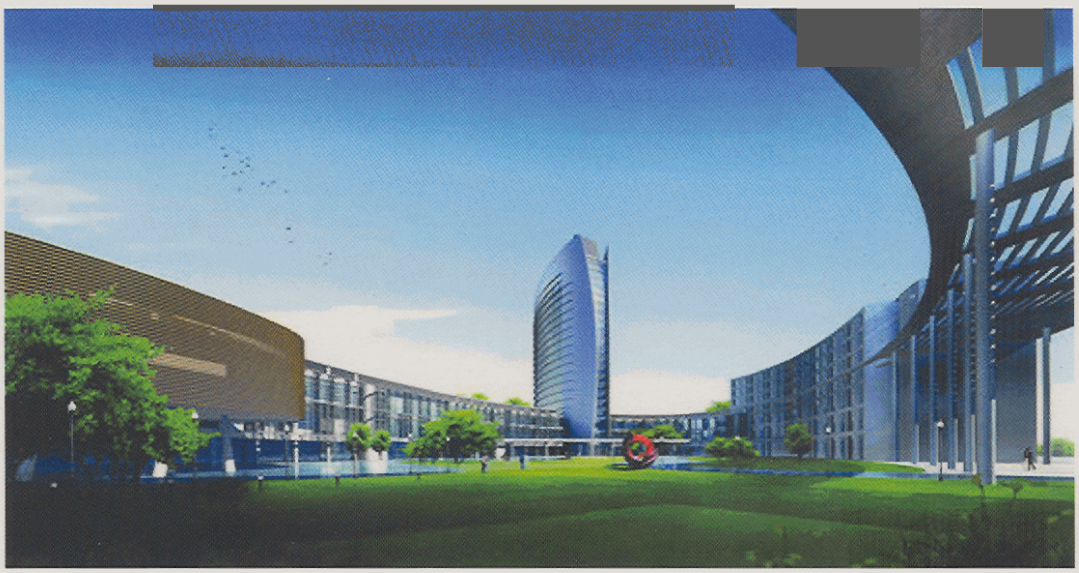
# Florida International University
# School of Hospitality and Tourism Management
# Announces

# The Tianjin, China Program



Florida International University has expanded its reach in hospitality studies—to China. In August 2006 FIU unveiled the first US School of Hospitality and Tourism in Tianjin, China, similar to FIU's top-ranked program in Miami. This is a joint hospitality management program signed between the Chinese government and an American university, and is lauded as being the first of its kind in China.

The $50 million university center was fully funded by the Chinese government and sits on 80 acres of land in Tianjin, which is 60 miles from Beijing. The center, FIU's largest international program, currently includes a 20 story dormitory tower, which can house 1,000 students. The center has a capacity for up to 2,000 students. The first class will graduate in 2008.