Financial characteristics and outperformance

Evidence of a contemporary framework from the US lodging industry

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Abstract

Purpose – The paper aims to provide empirical evidence that certain financial characteristics are critical for lodging firms to earn a higher profit. Further, it proposes, perhaps more importantly, a robust empirical framework for identifying outperformance in profitability, which has been barely studied in the lodging industry.

Design/methodology/approach – The paper employed logit models, under the framework of comparative advantage theory, to explore the relationships between firm financial characteristics and outperformance from a financial perspective.

Findings – This study, for the first time, provides systematic empirical evidence on how to identify lodging firms that outperform their competitors over time. From a practical standpoint, owners and managers should use industry medians to benchmark financial performance, focusing on factors such as leverage, book to market, asset turnover, and firm size to ensure financial performance leadership among lodging firms. Moreover, echoing previous research, a franchise appears to help differentiate an outperforming firm from its competitors in a positive way.

Research limitations/implications – Because of the chosen research framework, the study results need to be interpreted with caution. Specific suggestions appear in the section of limitations and future research.

Practical implications – The paper includes implications of general guidelines to identify financial characteristics that differentiate outperforming firms from their competitors as well as some specific action plans for investors, practitioners, and researchers to consider.

Originality/value – This paper is the first one that provides systematic empirical evidence on how to identify lodging firms that outperform their competitors over time, thus shedding lights on what financial characteristics lodging firms should keep a close eye on for a better future.

Keywords Outperformance, Financial Characteristics, Advertising, Business performance, Financial performance

Paper type Research paper

Introduction

The US economy is largely characterized by uncertainty, featuring fluctuations of annual GDP growth and market returns over time (see Figure 1). Thanks to high
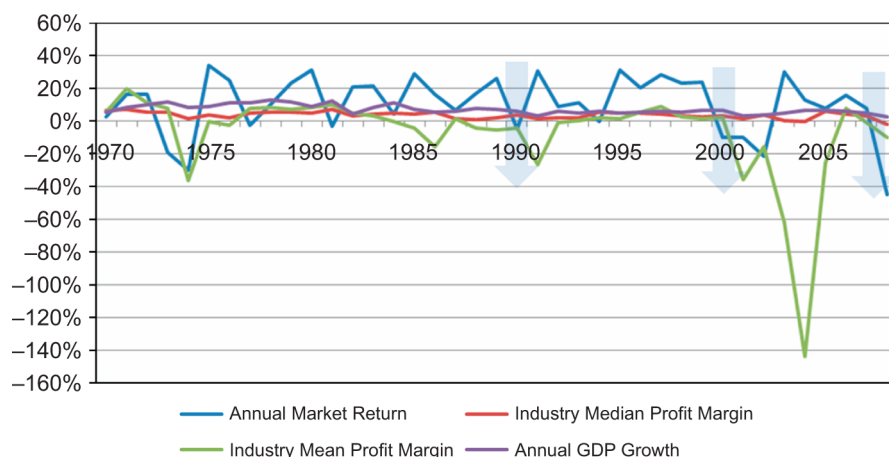
Annual Market Return — Industry Median Profit Margin

Industry Mean Profit Margin — Annual GDP Growth

Source: COMPUSTAT

proportional fixed costs (Graham and Harris, 1999), the lodging industry is particularly sensitive to the dynamics in the economy. A slight decrease in sales quite often causes profit margins to drop sharply since lodging firms are unable to cut their large proportional fixed costs to absorb revenue loss. In addition, these firms tend to have very narrow profit margins, an average (median) of 0.58 percent (3.33 percent), rendering them vulnerable to an easy slip into losses when there is stress in the economy (see Table I). How to sustain and achieve a higher profit margin, consequently, becomes the focus of today's lodging practitioners, especially as the pressure to improve financial performance increases over time (Grow *et al.*, 2005).

Investors are also keenly interested in understanding how to identify those firms that are likely more profitable than their competitors in order to better allocate capital accordingly for higher returns while containing relevant risks. After all, firms with stronger financial performance are more likely to continue to grow and flourish over a long time period. Therefore, this study takes the initiative to empirically explore the financial characteristics, when contrasted to the relevant industry benchmarks, which can differentiate more profitable firms from the rest.

Two contributions to the literature follow. First, this study provides empirical evidence that certain financial characteristics are critical for lodging firms to earn a higher profit. Second, perhaps more importantly, this study builds a robust empirical framework for identifying outperformance in profitability, which has been barely studied in the lodging industry.

Even though the lodging industry is facing an unfriendly macro environment with declining occupancy and average daily rate (AH&LA, 2010), individual firms still can outperform competitors, gain market share, and grow. In fact, as it happens quite frequently during economic downturns (Canina, 2001; Harrison and Enz, 2005), some of the strongest companies emerge.

The theorectical framework

Competition has long been regarded as a good thing. For example, "monopoly [. . .] is a great enemy to good management" (Smith, 1976, p. 5). It is a belief that competition

	n	Mean	Median	Min	Max
Profit margin	410	0.0058	0.0333	− 1.5032	0.7576
Current ratio	410	18.1833	4.2789	0.0121	546.7848
Marketshare	410	0.0534	0.0141	0.0001	0.6825
Leverage	410	0.7022	0.6879	0.1284	1.6728
Book to market	410	0.7300	0.6224	− 22.1800	27.4944
Asset turnover	410	0.6744	0.6179	0.1124	3.8256
Advertising intensity	410	0.0317	0.0243	0.0001	0.1128
Revenue	410	479.0947	123.4265	0.423	8,357.6840
Franchise	410	0.1780	0.0000	0.0000	1.0000
GDP	410	5.90e + 12	5.06e + 12	1.02e + 12	1.44e + 13
Country	410	0.8854	1	0	1

Notes: Profit margin = net income/total revenue; Current ratio = current assets/current liabilities; Marketshare = firm revenue/industry total revenue for a particular year, where industry total revenue is the sum of individual revenues of all the lodging firms in that year; Leverage = total year-end liabilities/total year-end assets; Book to market = book value of equity at year-end/market value of equity at year-end; Asset turnover = revenue for the year/total assets for the year; Advertising intensity = advertising expense for the year/total sales for the year; Revenue = annual revenue for the year; Franchise = 1, if an individual firm is using franchise or 0 otherwise in a particular year (Canina and Carvell, 2008); GDP = goss domestic product at purchaser's prices, which is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (*The World Bank, 2011*); Country = 1 if a firm incorporates in the US or 0 otherwise
Source: Data are collected from COMPUSTAT Industry Annual and the World Bank (The World Bank, 2011).

Table I.
Summary statistics for
level variables of interest

pressures down on costs, reduces slack, incentivizes the efficient organization of production, and even propels innovation forward (Nickell, 1996). Specifically, neoclassical theory of competition holds that each firm in an industry adjusts its quantity of outputs in reaction to changes in the market price of its product and costs of its inputs in the short term and the scale of its plant in the long term. Hence, the firm's environment strictly dictates its behavior and, because of the utility maximization assumption, its performance (Gould and Lazear, 1989).

However, the foundations of neoclassical theory are often too stringent to reflect the reality. For example, demand is assumed to be homogenous within industries and consumer information perfect and costless. People focus only on self-interest maximization and firms only on profit maximization. In particular, competition will only lead to quantity adjustment (Gould and Lazear, 1989). Consequently, Hunt and Morgan (1995) propose the comparative advantage theory of competition that relaxes these stringent assumptions and argue that competition drives the establishment of comparative advantages, which dictate resource allocation, establish firm marketplace position and, in turn, bring about superior financial performance at the firm level.

Therefore, to survive and thrive in a competitive environment, a firm must establish comparative advantages that produce better financial performance (Phillips, 1999), everything else being the same.

Establishing comparative advantages: a financial perspective
This study stays in the financial framework and focuses on those drivers that are readily available to lodging practitioners, investors, and researchers. While

acknowledging that focusing on financial drivers is a limitation, this study argues that information contained in nonfinancial factors is ultimately impounded in the relevant financial variables over a reasonably long period of time[1].

Particularly in the long run equilibrium, a perfect competitor makes a normal profit (Shetty, 2008; Tregarthen and Rittenberg, 1999). The normal profit will attract new entrants, which would make some of the existing restaurant firm customers defect. As a result, its portion of the market demand curve for the existing restaurant establishments would then decrease (Shetty, 2008). The existing firm would then attempt to protect its profits by increasing its expenditure on product differentiation, which is naturally reflected on changes in firm financial characteristics. This would offset the entry of a new restaurant establishment (Shetty, 2008). In recognition of the fundamental characteristics of competitive restaurant firms, these types of movements along the demand curve are typical of the restaurant industry.

Following the comparative advantage theory and other relevant extant research reviewed above, this study proposes an eight-dimension framework that helps a firm to differentiate itself from its peers from a financial performance perspective.

The first dimension of the framework is based on the argument that firms may attain better financial performance from an increase in size due to economies of scale, more promotional opportunities, improved efficiency in assets, capital, technology management, and other operational synergies (Mao and Gu, 2008). Major studies conducted by Berman *et al.* (1999), Keating (1997), and Lee (2009) also observe a positive impact of size on firm performance. Moreover, large firms tend to possess more resources and have better opportunities to access the capital markets (Gupta, 1969; Baum, 1996). Claver-Cortés *et al.* (2007) indicated that for hotels to achieve higher levels of performance, they should be medium or large sized, belong to a chain, increase their category, and continuously improve their competitive strategy. Sainaghi (2011) also reported a positive relationship between the number of employees and hotel performance. Therefore, this study argues that, in the lodging industry, firm size is likely to positively influence financial performance.

In addition to size, a closely related but different dimension is market share. Many studies considered market share a major determinant of financial performance (e.g. Szymanski *et al.*, 1993). A lodging firm with 50 percent share of a particular market is twice as large as one with 25 percent of the same market, with the possibility of having efficiencies in operations, marketing, and profitability. The so-called "experience curve" phenomenon sheds more light on why higher market share leads to higher profits. According to Boston Consulting Group (1970), total unit costs of producing and distributing a product tends to decline by a roughly constant percentage with each doubling of a firm's cumulative output. This phenomenon happens because businesses with larger market share also have larger cumulative sales than their smaller competitors, permitting lower costs and correspondingly higher profits. Moreover, firms with larger market share in their respective markets are believed by many economists to have greater market power, which allows them to bargain more effectively, "administer" prices, and, in the end, realize significantly higher prices for a particular product (e.g. Bain, 1968). However, although it appears that having a high market share helps profitability, based on a meta analysis by Capon *et al.* (1990), it is unclear whether gaining market share is a good idea, others being equal. In addition, increasing market share was found to be followed by decreasing productivity (e.g. Hay

and Liu, 1997). Therefore, this study considers market share an important dimension in the testing framework.

Prior evidence from the finance and accounting literature generally suggests that financial leverage is a risk factor (e.g. Bhandari, 1988; Ely, 1995; Papanikolaou and Wolff, 2010), implying that firms with a higher level of financial leverage are riskier compared to firms with lower financial leverage. Consequently, to bear higher risks, investors demand higher returns. In other words, highly leveraged firms are more than likely facing a higher cost of capital. In addition, higher leverage means higher interest expense, which directly cuts into firm profit. On the other hand, leverage improves firm financial performance in good times because shareholders are effectively using financial resources that belong to creditors to create value for themselves. Therefore, this study proposes leverage as another dimension in the testing framework and expects a negative relationship between leverage and financial performance for lodging firms, everything else being the same.

Moreover, Fama and French (1992) identified that the measure of book equity to market equity (BM) captures much of the cross-section of average stock returns. Peterkort and Nielsen (2005) argued that the BM ratio should act as a proxy for risk because of the expected relations between financial risk and measures of capital structure based on the market value of equity and asset risk and measures of capital structure based on the book value of equity. Using BM as a proxy for risk, it can be stated that a high BM signals persistent poor earnings, and a low BM signals strong earnings (Fama and French, 1995). Therefore, BM is considered as an imperative dimension for the study framework.

Kotler *et al.* (1996) indicated that a firm's investment in advertising could significantly improve operating income through promotional events, enticement of repeat customers, and strong customer relational bonds. Advertising expense to target groups establishes customer relationship marketing which benefits a firm through the continuing patronage of loyal customers who display decreased price sensitivity over time. Also, Erickson and Jacobson (1992) provided evidence that advertising can enhance brand name recognition and create a brand premium so that the brand can command a higher price relative to competing products with almost identical physical features. In general, previous studies provide theoretical and empirical support for the positive relationship between advertising and firm performance (e.g. Comanor and Wilson, 1967; Hirschey and Weygandt, 1985; Bharadwaj *et al.*, 1999; Rao *et al.*, 2004). However, even though this positive relationship is observed, there is no indication with regard to the impact of efficiency on utilizing marketing dollars. This study argues that when comparing a firm to its peers, to achieve a higher profit margin not only depends on how much has been spent in marketing, but also how efficiently these marketing dollars have been used. It is only intuitive that overspending leads to waste and lower profit. On the flip side, firms can earn higher net income with similar or even less spending in marketing relative to their competitors. This argument has significant implications for firms in the lodging industry – successful lodging firms can utilize marketing dollars more effectively to achieve better financial performance than can the competition (Phillips, 1999). Therefore, this study expects a more profitable lodging firm not to significantly over-spend marketing dollars relative to its competitors.

Liquidity measures a firm's ability to meet its short-term obligations (Kim and Gu, 2006). Good liquidity management can improve operating results and enhance firm

performance, whereas poor liquidity management can lead to weak operating profits and hurt firm performance in the capital market (Moyer *et al.*, 2001). Moyer and Chatfield (1983) proposed a negative effect of liquidity on bankruptcy because high liquidity indicates a low level of short-term obligations and implies low default risk. However, too much liquidity could hurt profitability because excess idle current assets increase opportunity costs (Schmidgall, 2006). Therefore, this study controls for liquidity as another dimension in the testing framework.

Logue and Merville (1972) suggested that firms with high operating efficiency tend to generate high profits and therefore have a lower chance of business failure. An operating efficiency ratio such as total assets turnover is often used to indicate the efficiency of utilizing assets to generate revenue (Schmidgall, 2006). This type of activity measure reveals how rapidly noncash assets flow through a firm and how quickly these assets generate revenue (Moyer *et al.*, 2001). A positive relationship between assets, efficiency, and firm performance has been proposed and was empirically supported (Kiymaz, 2006; Roenfeldt and Cooley, 1978). However, when profitability is measured by profit margin as in this study, a negative relationship between asset turnover and profitability is expected and consistent with previous findings mainly because of the mathematical construction of profit margin[2].

Lastly, franchising is likely to benefit small firms by enhancing their growth capabilities through infusion of capital, managerial experience, and sharing of risks (Roh, 2002). Claver-Cortés *et al.* (2007) suggest that franchising is highly advisable because the performance of chain establishments that use franchise is stronger than that of the independent establishments. In addition, Keeling (2001) and Aliouche and Udo (2009) argue that franchised firms have a financing edge. However, engaging in spatially decentralized production, distribution, and marketing, lodging franchise chains are exposed to varied local market conditions that require local adaptation to maximize performance. This exposure can be costly considering that uniform operating procedures cannot optimize performance across these diverse locations (Minkler, 1992; Kaufman and Eroglu, 1999). Consequently, costs associated with a franchise could significantly burden a firm's financial performance as well.

Measuring financial outperformance
To gauge and proxy for better financial performance, this study defines financial outperformance (hereafter outperformance) when a lodging firm manages to generate a profit margin greater than that of the industry median. The rationale behind this definition is fivefold. First, outperformance commonly refers to doing better than some particular benchmark (*The Free Dictionary, 2010*). In particular, Harris and Mongiello (2001) found that general managers of chain-based European hotel firms ranked "benchmarking against competitors" number one as key performance indicators. Second, profit margin is used to measure the financial performance and, in turn, outperformance because it results from the US GAAP accounting; thus it is reliable and relevant. Third, profit margin is considered one of the most frequently used dimensions (Murphy *et al.*, 1996) and is relatively free from the size impact of the firm (Tangen, 2003). Fourth, median is used as the metric to exceed due to the desire and demand for firms to achieve profit margin larger than that of at least half of its peers. Theoretically, support for the choice of industry median is due to the consideration of preventing distortions from extreme values, a common problem with utilizing an arithmetic mean

as a measurement tool in the hospitality industry (Enz *et al.*, 2001)[3]. And finally, profit margin offers insights on the efficiency of a firm's ability to convert revenue to profit, illustrating the effectiveness of management (Schmidgall, 2006).

Modeling financial outperformance

Equipped with the theoretical underpinnings of outperformance drivers along with advantages of known history and the learning aspects of information (Mock, 1971), this study is able to model financial outperformance with a retrospective point of view and address the issue of what financial characteristics investors, practitioners, and researchers should pay particular attention to with regard to outperformance in the lodging industry. Specifically, financial data are collected for all publicly traded lodging firms with North American Industry Classification System (NAICS) coding of 721110 from 1970 to 2008 from the COMPUSTAT Industrial Annual database. Then, a logit model is constructed with a dummy dependent variable (Outperformer), coded as 1 if a firm achieved a profit margin greater than the industry median profit margin in a given year (hereafter, outperforming firm) or 0 otherwise. Independent variables are based on previous research on drivers of financial performance and computed as the individual deviations from the relevant industry medians in a particular year. For example, one of the independent variables, Diff Marketshare (x_2) in a given year, is calculated as a firm's individual market share minus the industry median market share in the given year. Taking the differences between individual variables and the respective industry medians reflects the essence of comparison utilized when measuring financial outperformance. In addition, this process reduces heteroscedasiticity as well as impacts of fixed effects and time, if any[4]. For statistical and sensitivity purposes, nine additional tests are performed, which represent alternative possibilities that show whether certain independent variables are dominating or inseparable in the model estimation process. In total, six additional independent variables are introduced to test the robustness of this study-proposed framework. First, a variable named GDP is introduced as a measure of gross domestic product at purchaser's prices, which is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products from 1970 to 2008 (The World Bank, 2011). The tension of introducing GDP lies in the possibility of systematic impacts of macro economy dynamics on financial characteristics of individual firms. As the macro economy fluctuates, individual firms in a particular industry such as the lodging industry may face intensified competition and, as a result, exhibit a certain set of financial characteristics that theoretically would deliver an optimal financial result. Therefore, to test whether this argument poses a potential omitted variable problem that systematically and qualitatively biases coefficient estimates of variables of interest proposed earlier. GDP is introduced as an additional independent variable. Moreover, considering publicly traded lodging firms may incorporate in foreign countries instead of the US, this study introduces a dummy variable, country, coded as 1 if a firm incorporates in the US or 0 otherwise, to test whether certain country effect affects firm financial characteristics systematically. And lastly, based on economic history, this study also tests whether certain drastic economic downturns would systematically impact a lodging firm's financial characteristics by introducing four dummy independent variables for 1991, 1999, 2001, and 2008, coded as 1 if an

observation falls within a particular year in question or 0 otherwise, respectively. The logit model is chosen because of its statistical power of being able to predict success from failure (Hensher *et al.*, 2007). Specifically, this study constructs a binary dependent variable (takes the value of either one for outperformers, or zero for the rest) as the independent variables are allowed to be a mixture of continuous and binary variables. In essence, this study is examining the probability of differentiating outperformers from their peers. Therefore, the logit regression is the most appropriate technique for handling this situation because it computes the probability of a binary event happening based on independent variables. By running the logit model, this study is able to differentiate outperforming firms from the rest in the lodging industry and to highlight the important financial characteristics of outperformance. Consequently, the following model is constructed (subscriptions suppressed for ease of presentation):

$$P(\text{Outperformer} = 1|\vec{x}) = Logit(\beta_0 + \sum_{n=1}^{8} \beta_n x_n) \tag{1}$$

Where:

- $P(\text{Outperformer} = 1|\vec{x}) =$ the probability of being an outperforming firm given $\vec{x}$.
- $\vec{x} =$ a vector of all independent variables.
- Logit(*) is used to symbolize the logit function form.
- Outperformer $= 1$ when a firm is able to generate a profit margin that is greater than the industry median profit margin, i.e., net income/total revenue – industry median of net income/total revenue > 0 in a given year (ni/revt-industry median of ni/revt > 0 in a given year, COMPUSTAT Industry Annual), 0 otherwise.
- $x_1 =$ Diff Current Ratio $=$ Individual firms' current ratio – the industry median current ratio, with current ratio calculated as current assets divided by current liabilities (act/lct in a given year, COMPUSTAT Industry Annual).
- $x_2 =$ Diff Marketshare $=$ Individual firms' marketshare – the industry median marketshare, with marketshare calculated as individual firms' sales (revt) divided by the industry total sales (in a given year, COMPUSTAT Industry Annual).
- $x_3 =$ Diff Leverage $=$ Individual firms' leverage – the industry median leverage, with leverage calculated as total liabilities divided by total assets (lt/at in a given year, COMPUSTAT Industry Annual).
- $x_4 =$ Diff Book to Market $=$ Individual firms' BM – the industry median BM, with BM calculated as book value of equity divided by market value of equity, total shareholders' equity/common shares outstanding*share price (seq/(csho*prcc_f) in a given year, COMPUSTAT Industry Annual).
- $x_5 =$ Diff Asset Turnover $=$ Individual firms' asset turnover – the industry median asset turnover, with asset turnover calculated by sales divided by total assets (revt/at in a given year, COMPUSTAT Industry Annual).
- $x_6 =$ Diff Advertising Intensity $=$ Individual firms' advertising intensity – the industry median advertising intensity, with advertising intensity calculated as advertising expense divided by total sales (xad/revt in a given year, COMPUSTAT Industry Annual).

- $x_7 =$ Diff Revenue = Individual firms' revenue (revt) – the industry median revenue (in a given year, COMPUSTAT Industry Annual).
- $x_8 = 1$ if an individual firm is using franchise or zero otherwise in a particular year. In other words, if a firm's business description discloses franchise utilization, then the dummy is coded as 1, otherwise 0 in a particular year (Canina and Carvell, 2008).

Results and discussion

Summary statistics of level variables of interest are reported in Table I. The final sample consists of 410 publicly traded lodging firm-year observations from 1970 to 2008. Loss of observations is mainly due to missing values in the COMPUSTAT database. Although these missing values appear overall random, they could be considered as part of the study limitation due to data constraints. Echoing Enz *et al.* (2001), it appears that the arithmetic means of all metrics studied in this article are generally distorted by extreme values, while the medians of these metrics capture the most central or middle values, relatively free from the distortion experienced by the mean. All the deviation metrics studied tend to span a wide range. For example, the median annual profit margin turns out to be 3.33 percent with a wide range spanning -150.32 and 75.76 percent, indicating the efficiency of firms to convert revenue to profit varies widely. Notice that the mean annual profit margin is a meager 58 percent, significantly different from the median, clearly distorted by extreme values. The median annual current ratio is 4.28 with a range that spans 0.01 and 546.78, implying that some hotel firms are struggling to satisfy debt obligations while some entertaining too much liquidity. Again, the significant difference between the mean and median is observed. This study also shows that other variables, such as annual market share, leverage, BM, asset turnover and advertising intensity, share similar wide range distribution characteristics. GDP showed significant growth over the years as illustrated by the wide range between the minimum and maximum. And lastly, the mass majority of over 90 percent of all publicly traded lodging firms incorporated in the USA.

The differenced variables of interest are reported in Table II. Similar to Table I, wide discrepancies between means and medians are observed, along with large spans between minimums and maximums. However, the reduction of heteroscedasiticity and the concept of relative outperformance are also captured as expected by taking differences between the individual level variables of interest and the corresponding industry medians. It is important to note that the magnitude of outperformance boasts a median of 0 as indicated by a differenced profit margin (diff profit margin) median of 0 in panel A of Table II. A further test of diff profit margin does not suggest any significant deviations from the normal distribution, corroborating creation of the dependent variable by coding a dummy, outperformer, as 1 when diff profit margin is greater than zero, and 0 otherwise.

To illustrate the differences that could be utilized to differentiate outperformers from the rest of the study sample, panel B and panel C of Table II further report summary statistics of outperformers and non-outperformers (the rest of the study sample). Overall, clear differences can be observed between these two groups, indicating the logit model would provide powerful results[5].

	n	Mean	Median	Min	Max
Panel A: summary statistics for sampled firms					
Diff profit margin	410	− 0.0265	0	− 1.5127	0.6873
Diff current ratio (x_1)	410	13.5173	0.1264	− 25.7912	541.7612
Diff marketshare (x_2)	410	0.0454	0.0068	− 0.0128	0.6780
Diff leverage (x_3)	410	0.0219	0.0128	− 0.5274	1.0188
Diff book to market (x_4)	410	0.0721	0.0020	− 22.6436	26.5659
Diff asset turnover (x_5)	410	0.0785	0.0185	− 0.5564	3.3939
Diff advertising intensity (x_6)	410	0.0021	− 0.0012	− 0.0508	0.0724
Diff revenue (x_7)	410	393.5996	61.8490	− 271.313	8303.301
Franchise (x_8)	410	0.1780	0	0	1
GDP (x_9)	410	5.90E + 12	5.06e + 12	1.02E + 12	1.44E + 13
Country (x_{10})	410	0.8854	1	0	1
Panel B: summary statistics for outperformers					
Diff current ratio	198	19.9197	1.2181	− 25.7912	541.7612
Diff marketshare	198	0.0748	0.0116	− 0.0097	0.6780
Diff leverage	198	− 0.0648	− 0.0808	− 0.4382	0.6669
Diff book to market	198	0.0730	− 0.0053	− 5.6761	3.7204
Diff asset turnover	198	0.0388	0.0062	− 0.5446	1.7868
Diff advertising intensity	198	− 0.0010	− 0.0054	− 0.0489	0.0724
Diff revenue	198	693.8207	88.0405	− 266.3595	8303.3010
Franchise	198	0.2879	0	0	1
Country	198	0.8081	1	0	1
Panel C: summary statistics for non-outperformers					
Diff current ratio	212	7.5377	− 0.1833	− 20.5923	458.0394
Diff marketshare	212	0.0179	0.0051	− 0.0128	0.5151
Diff leverage	212	0.1028	0.0895	− 0.5274	1.0188
Diff book to market	212	0.0713	0.0225	− 22.6436	26.5659
Diff asset turnover	212	0.1155	0.0272	− 0.5564	3.3939
Diff advertising intensity	212	0.0049	0.0002	− 0.0508	0.0685
Diff revenue	212	113.2043	47.0140	− 271.3130	2289.4020
Franchise	212	0.0755	0	0	1
Country	212	0.9575	1	0	1

Notes: Diff profit margin = Individual firms' profit margin – the industry median profit margin, with profit margin calculated as net income before extraordinary income divided by revenue; Diff current ratio = x_1 = Individual firms' current ratio – the industry median current ratio, with current ratio calculated as current assets divided by current liabilities (act/lct in a given year, COMPUSTAT Industry Annual); Diff marketshare = x_2 = Individual firms' marketshare – the industry median marketshare, with marketshare calculated as individual firms' sales (revt) divided by the industry total sales (in a given year, COMPUSTAT Industry Annual); Diff leverage = x_3 = Individual firms' leverage – the industry median leverage, with leverage calculated as total liabilities divided by total assets (lt/at in a given year, COMPUSTAT Industry Annual); Diff book to market = x_4 = Individual firms' BM – the industry median BM, with BM calculated as book value of equity divided by market value of equity, total shareholders' equity/common shares outstanding*share price (seq/(csho*prcc_f) in a given year, COMPUSTAT Industry Annual); Diff asset turnover = x_5 = Individual firms' asset turnover – the industry median asset turnover, with asset turnover calculated by sales divided by total assets (revt/at in a given year, COMPUSTAT Industry Annual); Diff advertising intensity = x_6 = Individual firms' advertising intensity – the industry median advertising intensity, with advertising intensity calculated as advertising expense divided by total sales (xad/revt in a given year, COMPUSTAT Industry Annual); Diff revenue = x_7 = Individual firms' revenue (revt) – the industry median revenue (in a given year, COMPUSTAT Industry Annual); Franchise = x_8 = 1 if an individual firm is using franchise or zero otherwise (Canina and Carvell, 2008); GDP = x_9 = GDP at purchaser's prices, which is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products (The World Bank, 2011); Country = x_{10} = 1 if a firm incorporates in the US or 0 otherwise

Table II.
Summary statistics for
differenced variables of
interest

Pearson correlation analysis results are provided in Table III. In general, all key variables are reasonably correlated, and multicollinearity does not appear to pose any significant problems considering no differenced metrics constructed are highly correlated with each other. Differenced marketshare and size (x_2 and x_7) exhibit a moderate correlation around 64 percent. However, later VIF tests do not show any sign of multicollinearity problems (see Tables IV and V).

The logit regression analysis results from the main model (main), along with sensitivity model (1), (2), (3) and (4), are reported in Table IV. The main model exhibits a Pseudo R^2 of 23 percent with Chi-square statistic significant at all conventional levels, implying independent variables employed significantly differentiate outperforming firms from the rest in the lodging industry. White's (1980) error is computed to accommodate heteroscedasiticity effects[6]. Benchmarking individual firms against the industry median offers an opportunity to understand what outperforming firms did over time to differentiate themselves from the rest. In this logit regression model, a significant result implies that the independent variable is able to differentiate the outperformance firms from the rest of the group. A positive (negative) coefficient implies that higher values of the independent variable increase (decrease) the possibility of the firm being included in the outperformance group.

Diff leverage (x_3) shows significantly negative impact on the dependent variable, implying that a higher than median leverage is likely associated with lower financial performance. In other words, the possibility of being included in the outperformance group is lower if the firm has higher than median leverage. This finding echoes the argument that investors demand higher returns to bear higher risks, thus resulting in a higher cost of capital for higher leveraged firms and, in turn, negatively impacts the firms' financial performance. Diff book to market (x_4) shows significantly negative impact on being included in the outperformance group, echoing Fama and French (1995) that a high BM signals persistent poor earnings and a low BM signals strong earnings. Moreover, diff asset turnover (x_5) illustrates a significantly negative impact on differentiating an outperformer from the rest. Diff revenue (x_7) helps a firm to outperform its competitors as indicated by the associated, significantly positive coefficients, reaffirming that firms may attain better financial performance from an increase in size due to economies of scale, more promotional opportunities, improved efficiency in assets, capital, technology management, and other operational synergies (Mao and Gu, 2008). And lastly, franchise utilization (x_8) helps to differentiate an outperformer from its competitors in a positive way, likely resulting from mature operation models, centralized marketing programs, better and easier access to financing, and shared risk/reward characteristics (Roh, 2002; Keeling, 2001).

Liquidity, market share, advertising intensity, and year dummies were found insignificant in classifying firms into the outperformance category. Pursuing a liquidity level that is significantly different from that of the industry median does not seem to help differentiate an outperformer from the rest, as indicated by the insignificant coefficient on the diff current ratio. This finding is consistent with the good liquidity management argument that a proper amount of liquidity is the key (Moyer *et al.*, 2001). Moreover, diff market share (x_2) does not turn out to be significant at the 5 percent level, indicating the failure of pursuing outperformance by a drastic gobbling of market share. This seemingly counterintuitive result may stem from the fact that hotel firms historically tend to perform better by maintaining a relatively

	(x₁)	(x₂)	(x₃)	(x₄)	(x₅)	(x₆)	(x₇)	(x₈)	(x₉)	(x₁₀)
Diff current ratio (x_1)	1									
Diff marketshare (x_2)	0.0129	1								
	(0.7947)									
Diff leverage (x_3)	−0.1192	−0.2352	1							
	(0.0157)	(0.0000)								
Diff book to market (x_4)	−0.0019	0.0155	−0.3164	1						
	(0.9693)	(0.7546)	(0.0000)							
Diff asset turnover (x_5)	−0.0575	0.0775	0.0226	−0.0234	1					
	(0.2454)	(0.1173)	(0.6487)	(0.6361)						
Diff advertising intensity (x_6)	−0.0595	−0.1221	0.1989	−0.0786	−0.0531	1				
	(0.2297)	(0.0133)	(0.0000)	(0.1119)	(0.2835)					
Diff revenue (x_7)	0.072	0.6437	−0.1627	0.0654	0.081	−0.1593	1			
	(0.1454)	(0.0000)	(0.0009)	(0.1864)	(0.1013)	(0.0012)				
Franchise (x_8)	0.0312	0.1824	−0.2548	−0.0758	−0.0621	−0.102	0.2355	1		
	(0.5282)	(0.0002)	(0.0000)	(0.1253)	(0.2094)	(0.0390)	(0.0000)			
Gdp (x_9)	0.1578	−0.1821	0.0534	0.0804	0.124	0.0566	0.1321	0.0409	1	
	(0.0013)	(0.0002)	(0.2809)	(0.1041)	(0.0119)	(0.2528)	(0.0074)	(0.4089)		
Country (x_{10})	0.0261	−0.0954	0.1871	0.0102	−0.1074	0.0684	−0.2448	−0.0126	0.0095	1
	(0.5985)	(0.0536)	(0.0001)	(0.8364)	(0.0297)	(0.1666)	(0.0000)	(0.7986)	(0.8478)	

Note: p-values are reported in parentheses; All variables are defined in Table II

Table III.
Pearson correlation
analysis

Table IV.
Logit regression analyses results

	(Main) Outperformer		Sensitivity (1) Outperformer		Sensitivity (2) Outperformer		Sensitivity (3) Outperformer		Sensitivity (4) Outperformer	
	n	White errors	n	White errors	n	White errors	n	White errors	n	White errors
Diff current ratio (x_1)	0.00129	0.00223	0.00109	0.00229	0.00221	0.00211	0.00246	0.00204	0.00258	0.00204
Diff marketshare (x_2)	1.652	2.550	1.747	2.814	0.00366	2.479	0.870	2.363	0.581	2.362
Diff leverage (x_3)	-5.139***	0.964	-5.545***	0.961	-5.143***	0.977	-4.669***	0.923	-4.712***	0.933
Diff book to market (x_4)	-0.156*	0.0616	-0.183**	0.0620	-0.148*	0.0599	-0.128*	0.0569	-0.140*	0.0669
Diff asset turnover (x_5)	-1.004**	0.388	-1.089**	0.384	-0.864*	0.387	-1.113**	0.409	-1.071**	0.414
Diff advertising intensity (x_6)	-1.812	4.958	-1.947	4.946	-0.983	5.092	-1.611	5.067	-1.365	5.137
Diff revenue (x_7)	0.000769*	0.000365	0.000781*	0.000373	0.00100*	0.000436	0.000899**	0.000345	0.000955*	0.000371
Franchise (x_8)	0.920**	0.334			1.060**	0.343	1.225***	0.347	1.235***	0.352
GDP (x_9)					-9.05e-14*	3.77e-14	-8.47e-14*	3.92e-14	-1.04e-13*	4.27e-14
Country (x_{10})							-1.729***	0.471	-1.742***	0.471
year2008 (x_{11})									1.450	1.006
year2001 (x_{12})									0.227	0.660
year1999 (x_{13})									-0.218	1.247
year1991 (x_{14})									-0.0683	0.684
_cons	-0.314*	0.142	-0.169	0.131	0.171	0.237	1.667***	0.497	1.764***	0.505
n	410		410		410		410		410	
Pseudo R^2	0.23		0.21		0.24		0.27		0.29	

Notes: White (1980) errors are calculated and reported, considering White (1980) tests reveal signs of heteroscedasticity; $^+p < 0.10$; $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$; Chi-Square statistics are significant at all levels; All relevant VIF values are less than 2.2, indicating no multicollinearity issues; Outperformer=1 when a firm is able to generate a profit margin that is greater than the industry median profit margin, i.e., net income/total revenue – industry median of net income/total revenue > 0 in a given year (ni/revt-industry median of ni/rrevt > 0 in a given year, COMPUSTAT Industry Annual), 0 otherwise; x_1 through x_{10} are defined in Table II; $x_{11} = 1$ if an observation falls in year 2008 or 0 otherwise; $x_{12} = 1$ if an observation falls in year 2001 or 0 otherwise; $x_{13} = 1$ if an observation falls in year 1999 or 0 otherwise; $x_{14} = 1$ if an observation falls in year 1991 or 0 otherwise

	Sensitivity (5) Outperformer		Sensitivity (6) Outperformer		Sensitivity (7) Outperformer		Sensitivity (8) Outperformer		Sensitivity (9) Outperformer	
	n	White errors	n	White errors	n	White errors	n	White errors	n	White errors
Diff current ratio (x_1)	0.00161		0.00172	0.00220	0.00244	0.00211	0.00267	0.00206	0.00282	0.00204
Diff marketshare (x_2)	4.664	3.434	4.215	2.968	2.907	2.780	3.404	2.597	3.173	2.557
Diff leverage (x_3)	-5.362***	0.931	-4.964***	0.945	-4.953***	0.963	-4.466***	0.903	-4.503***	0.915
Diff book to market (x_4)	-0.171**	0.0590	-0.144*	0.0586	-0.138*	0.0577	-0.119*	0.0554	-0.130*	0.0641
Diff asset turnover (x_5)	-0.942**	0.362	-0.890*	0.362	-0.739*	0.363	-0.979**	0.380	-0.931*	0.382
Diff advertising intensity (x_6)	-2.152	4.889	-2.055	4.908	-1.336	5.012	-1.978	4.986	-1.697	5.053
Diff total assets (x_7)	0.000142	0.0000995	0.000142	0.0000894	0.000230*	0.000103	0.000235*	0.000102	0.000248*	0.0000996
Franchise (x_8)			0.938**	0.333	1.053**	0.338	1.235***	0.344	1.250***	0.348
GDP (x_9)					-7.83e-14*	3.79e-14	-7.47e-14+	3.97e-14	-9.48e-14*	4.33e-14
Country (x_{10})							-1.766***	0.458	-1.780***	0.458
year2008 (x_{11})									1.388	0.944
year2001 (x_{12})									0.194	0.653
year1999 (x_{13})									-0.253	1.179
year1991 (x_{14})									-0.0544	0.669
_cons	-0.169	0.128	-0.310*	0.137	0.107	0.236	1.638***	0.485	1.739***	0.493
n	410		410		410		410		410	
Pseudo R^2	0.20		0.21		0.22		0.25		0.26	

Notes: White (1980) errors are calculated and reported, considering White (1980) tests reveal signs of heteroscedasticity; $^+p < 0.10$; $^*p < 0.05$; $^{**}p < 0.01$; $^{***}p < 0.001$; Chi-Square statistics are significant at all levels; All relevant VIF values are less than 2.2, indicating no multicollinearity issues; All variables are defined in Table IV except diff total assets. Diff total assets = x_7 = individual firms' total assets (at) – the industry median total assets (in a given year, COMPUSTAT Industry Annual)

Table V.
Logit regression analyses results

higher average daily rate and lower occupancy versus their competitors instead of introducing significant price discounts (Enz *et al.*, 2009) even though discounting can often be an effective strategy to increase market share. However, the good news is that increasing market share in the lodging industry is not followed by decreasing productivity as indicated by Hay and Liu (1997), for example, if profit margin is interpreted as an efficiency measure. A note, though, is that the insignificance of diff marketshare can also be attributed to its moderate correlation with diff revenue (x_7) and the testing model's lack of power. Diff Advertising Intensity (x_6) does not significantly differentiate outperforming firms from the rest, suggesting increasing advertising intensity significantly more than that of the industry median does not help a firm to outperform, and is thus consistent with the study argument of efficient marketing spending. Year dummies of year2008 (x_{11}), Year2001 (x_{12}), Year1999 (x_{13}), and Year1991 (x_{14}) are included to control for the year effects when significant economy downturns were observed. None of them turned out to be significant. Among the nine sensitivity models tested, the study proposed variables of interest are robust to inclusion of additional independent variables and unaffected qualitatively by alternative explanations. Tables IV and V report all Logit regression results. First of all, all proposed variables of interest are consistently and qualitatively significant across alternative testing frameworks from sensitivity (1) to (9), showing robustness and stability. No independent variable of interest is dominating the model estimating process, as indicated by smooth changes in the Pseudo R^2 values across all models. Although GDP and Country show significant impacts on the model's dependent variable, they do not pose serious omitted variable problems because their inclusion does not change qualitatively coefficient estimates of the variables of interest in this study. In addition, GDP is found negatively correlated with outperformer, indicating good times intensify competition thus press down profit margin and are more likely to see underperformance. Lastly, foreign firms appear to exhibit financial performance better than US firms, as indicated by the significantly negative coefficient associated with country.

Conclusions and implications

This study, for the first time, provides systematic empirical evidence on how to identify lodging firms that outperform their competitors over time. Its results have timely and significant implications for practitioners, researchers, and other parties of interest. From a practical standpoint, owners and managers should use industry medians to benchmark financial performance, focusing on factors such as leverage, book to market, asset turnover, and size to ensure financial performance leadership among lodging firms. Specifically, compared to the relevant industry medians, lower asset turnover, leverage, book to market ratio, and bigger size appear to clearly identify those lodging firms that outperform their peers. With respect to financial leverage, this study provides insight into the benefits of reducing debt financing. Moreover, echoing previous research (Roh, 2002; Keeling, 2001), franchise appears to help differentiate an outperforming firm from its competitors in a positive way, possibly resulting from mature operation models, centralized marketing programs, better and easier access to financing, and shared risk/reward characteristics in recessionary times. However, significantly greater advertising intensity, relative to the industry median, does not

seem to bring in more marginal profit, indicating efficiency of marketing expenditures may be a key to outperformance instead of the absolute magnitude.

Specific actionable plans to outperform may be extrapolated from the results of this study. For example, hoteliers may want to consider developing as a franchise in order to take advantage of easier access to financing and shared risk/reward characteristics (Roh, 2002; Keeling, 2001). Decreasing debt capital financing to be significantly below that of the industry median by inviting venture capitalists and new partnerships to the business organization may also serve as an actionable plan. This plan, however, has to be very carefully executed considering dilution of ownership can be a significantly negative consequence. In general, under only one circumstance is dilution acceptable, which is when new equity capital can help improve financial performance and secure a bigger piece of the value pie. Moreover, more efficient use of assets and bigger size relative to the relevant industry medians appear to be two more ways to outperform the competitors. For example, considering turning into a management, marketing, or franchise oriented company instead of remaining as a property owner can be one choice to make more efficient use of assets and at the same time to bring more potential to increase sales further. One such successful example is Marriott International, which has expanded its business rapidly since its separation from Host Marriott in 1992 as mainly a management and franchise company. On the other hand, this study also provides evidence of those strategies that may not work when outperformance is considered a strategic goal. For example, blindly increasing market share, liquidity, and even marketing intensity does not guarantee outperformance.

Limitations and future research

This study employs a contemporary modeling framework to address the relationships between independent and dependent variables, considering that managers and investors frequently ask questions in a contemporary context. For example, "If I want to borrow more next year, will that borrowing hurt my profit margin?" or "If I want to increase my marketing expense as a proportion of my total sales next year, will I improve my financial performance accordingly?" The downside of this perspective, though, is that the causal relationships might be tainted to a certain extent. Therefore, for future research, an alternative modeling framework can be employed, for example, a lagging framework. Specifically, independent variables will be one time period or multiple time periods lagged behind the dependent variables; thus the causal relationships are tested relatively clean. Yet the drawback with this lagging framework is that the researcher will have to hope that historical financial information will have sufficient power to predict future profitability, which can prove a critical assumption hardly satisfied due to the large amount of unexpected future noises, both systematic and idiosyncratic in nature, in the market place.

In addition, the financial performance measures in this study are accounting based, thus more historically oriented. There is no guarantee that the embedded relationships between historical financial data will persist into the future; thus interpretations of findings from this study require caution. For future research, stock returns and stock prices can be utilized as alternative financial performance measures that can be modeled within a framework encompassing systematic and idiosyncratic risks.

Do note, though, that the balance between short-term and long-term goals is delicate. For example, when considering acquisitions during difficult economic times,

practitioners may face a trade-off between short-term financial performance and long-term sustainability; in that sense, this paper is silent. However, it needs to be stressed that understanding the criticality of comprehensive considerations of all the studied metrics at the same time is the key to outperformance. The consequences of manipulating any of the metrics studied herein should be manifested and understood within the context of all metrics that can be affected before a final decision is drawn. Moreover, even though it is well understood that hotel operation types such as select service, full-service, and luxury may potentially impact the findings of this study, they are not explicitly controlled for during the model testing process due to data constraints. However, the potential bias should be minimal, considering operation types most likely would have an impact on the intercept of the studied models had they been controlled for using dummy variables.

Notes

1. This study spanned a research window close to 40 years, allowing enough time for relevant nonfinancial information to show up in the financial reports.

2. If y = profit margin, x = asset turnover, and z = return on asset then $y = z/x$. Take partial derivative with respect to x, we have $\partial y / \partial x = -x^{-2}z$. Obviously, x^{-2} is positive assuming nonzero revenue and if z is positive, then an inverse relationship between x and y is expected. In other words, if a firm is generating net income, which means a positive z, then increasing asset turnover for this firm will lead to decreasing profit margin. However, this inverse relationship will more often be small in magnitude because of x^{-2} decreases quickly with increase in x.

3. Tables I and II illustrate the vast differences between the mean and median for all the variables considered in this study, echoing Enz *et al.* (2001).

4. Heteroscedasiticity, by definition, results from differing variances of the disturbance term across all observations; therefore, taking the difference between individual variables and the respective industry medians may reduce data variances and mitigate heteroscedasticity effects.

5. It is important to note that this study did not segment the sample based on the dependent variable for model estimation purposes.

6. The White (1980) tests and results show heteroscedasiticy.

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