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Measuring Long-Term Advertising Effects in the Tourism and Hospitality Industry

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MEASURING LONG-TERM ADVERTISING EFFECTS IN THE TOURISM AND HOSPITALITY INDUSTRY

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DEDICATION

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ABSTRACT

Due to the intangible characteristics of the service product, the tourism and hospitality industry relies heavily on advertising. This dissertation is composed of three interrelated studies, with the overall purpose to investigate advertising effectiveness within the tourism and hospitality industry from a firm-level perspective. Longitudinal and time-series models were employed to analyze firm-level accounting, finance, and marketing data. Overall, results provided supports for the strategic value of advertising in the airline, hotel, and restaurant firms. The first study's findings indicate that the economic benefits from advertising expenditures, unlike other expenses, do not expire in the current period. In addition, advertising expenditures are significant strategic investments in intangible assets, providing greater future economic benefits than other assets. There is no significant heterogeneity regarding the effectiveness of advertising expenditures across sub-sectors in the tourism and hospitality industry.

The second study's results indicate that Hilton's advertising has a long-term effect on firm market value, beyond the impact of advertising's influence on sales. Therefore, the branding effect of Hilton's advertising expenditures on firm value is suggested, which coexists with the advertising's tangible effect through sales. The long-run positive impacts are significant for Hilton's advertising through television and the Internet, not through print and outdoor. The third study's results show that hospitality and tourism firms with more advertising investments use less long-term debt. These results suggest the long-run costs of advertising in the debt market in the hospitality and tourism

industry, providing supports for advertising budget allocations. Overall, this dissertation provides empirical evidence for the value relevance and risk relevance of firms' advertising expenditures in the hospitality and tourism industry.

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CHAPTER 1 GENERAL INTRODUCTION

The hospitality and tourism industry, as a service industry offering experience as the core product, is a customer-oriented and marketing-intensive industry, determined by its demand fluctuation, product perishability, profit instability, and dynamic and uncertain environment (Downie, 1997; Kotas, 1999). The experience nature of hospitality products reflects a higher perceived risk, leading consumers to favor a well-respect brand over unbranded one (Batra & Sinha, 2000). Furthermore, the hedonic nature of products makes a well-respect brand more likely to command price premium than utility products (Sethuraman & Cole, 1997). Due to these industry features, the tourism and hospitality industry is among the top advertising categories ranked by U.S. measured advertising expenditures in 2018 (Kantar Media, 2019). Specifically, the travel and tourism category has spent $7,020 million on U.S. advertising in 2018 with a 22.2% growth rate versus last year and ranked as the No. six category, followed by the restaurant category ranked as the No. seven category that has spent $6,782 million on U.S. advertising with a 6.6% growth rate. On the firm level, leading national advertisers also mirrored the category patterns. For example, the McDonald's Corp and Walt Disney were ranked as No. 23 and No. 29 respectively among top U.S. advertisers in 2017 (Ad Age Datacenter, 2018).

So, why link accounting and finance to marketing in the tourism and hospitality industry? Marketing managers can quantify and justify the value of marketing spending by linking it to marketing metrics (click rates, conversion, preference, awareness, satisfaction, loyalty, etc.), subsequent market results (sales, market share, profits, cash

flow, EBITDA, ROI, etc.), and ultimate firm's stock price (Reibstein, 2015). However, the relation between financial outcomes and marketing activities is still unclear, especially the long-term effects of marketing spending on financial outcomes (Reibstein, 2015). Accounting studies about customer experience and marketing still remain in the exploratory stage. Marketing managers receive little accounting information to make better marketing decisions, such as at what price levels to which customer segments. In addition, marketing plays a limited role in strategy formulation due to lack of associating marketing with finance and accounting (Srivastava, Shervani, & Fahey, 1998). Downie (1997) also found hotel managers require more accounting information to support forward planning activities, and more accounting information relating to the customer. Recently, marketing accountability concern (short-run and long-term effects of marketing investments) has been listed as the second priority in 2014-2016 Research Priorities by Marketing Science Institute (2013). The unique value of using accounting and finance information is providing monetary marketing results, and linking consumer-related brand dimensions with monetary brand dimensions (van Helden & Alsem, 2016). Although there is no consensus on whether marketing effects should be measured from the consumer or firm perspective, the firm-level outcomes (price, market share, revenue, and cash flow) are the aggregated consequence of consumer-level effects (attitudes, awareness, image, knowledge, and loyalty) (Ailawadi, Lehmann, & Neslin, 2003).

In addition, there is a lack of research from the companies' perspective in the tourism and hospitality field. The power and role of advertising in raising brand awareness and building a strong brand image have long been discussed by marketing academics (Aaker, 1991), with many different perspectives when addressing advertising

effectiveness. From the perspective of accounting, researchers focus on whether advertising is value-relevant or not and how to allocate advertising outlays (Abdel-Khalik, 1975). Marketing researchers examine advertising events based on consumer-based models (Aaker, 1991). The majority of current tourism and hospitality-related research assesses the effectiveness of advertising from the consumers' perspective. The consumer-based models tend to include variables such as perception and overall attitude. From the perspective of the marketing discipline, related models are often built on destination decision-making processes (Kim, Hwang, & Fesenmaier, 2005; Stienmetz, Maxcy, & Fesenmaier, 2015). Kim et al. (2005) measured the tourism advertising effectiveness based on attitudinal/behavioral effects, including top-of-mind awareness, awareness of advertising, requesting travel information, and visitation likelihood. Their model also compared the influence of different media channels and their interactions with the attitudinal/behavioral effect measures. Furthermore, instead of only considering destination choice, Stienmetz et al. (2015) built a facets-based model in assessing destination advertising, considering the complexity of the travel planning process. They investigated how the advertising influenced the key components of a travel decision, including the destination decision, attractions, restaurants, events, shopping, and accommodations, as well as how the advertising influenced the total trip expenditures. Following that, Park, Nicolau, and Fesenmaier (2013) assessed how the perceived advertising influence affected travel decisions during a hierarchical process. They also assessed the advertising effectiveness based on the destination decision and specific items purchasing decisions. What's new was they assessed the different influence across stages from the destination decision to the decision of the items and upon product type,

including hotel, restaurant, shopping, attraction, outdoor, and events. In addition, moderator variables were included such as age, income, travel distance, and Internet access.

The purpose of this dissertation is to understand the longitudinal financial impacts of the firm's advertising expenditures in the tourism and hospitality field. From a firm perspective, this dissertation uses accounting and finance information to measure the performance outcomes in order to assess advertising effectiveness in the tourism and hospitality industry. This dissertation poses three main research questions: First, what is the overall impact of advertising expenditure on firm value? Second, what is the long-term impact of advertising expenditure on firm value? Third, what is the related cost in the debt market? The objectives of this dissertation are threefold: Objective one is to determine the overall effect of advertising expenditures on firm market value—whether advertising should be considered as a tactic or strategic role within the organization. Objective two is to evaluate the long-term effect of advertising expenditures on firm value, including sales channel and branding channel. Objective three is to determine the advertising-induced cost.

This study is subjective to the delimitation that the population of this study is the public traded firms in the tourism and hospitality industry. The limitations of this study include the following: First, the data were retrieved from COMPUSTAT, which may be influenced by the accounting bias. Second, this study only examined advertising effects in the U.S. The key concept—Advertising expenditures—refers to "the promotion of an industry, an entity, a brand, a product name, or specific products or services so as to

create or stimulate a positive entity image or to create or stimulate a desire to buy the entity's products or services" described by the Financial Accounting Standards Board.

The dissertation is organized as follows. Chapter 1 is an introduction to the dissertation. Chapter 2 presents the first study of the dissertation. The purpose of this study is to investigate the nature of advertising expenditures in the tourism and hospitality industry. Adopting a market-based valuation approach and longitudinal analysis, this study assesses the economic effects of advertising expenditures by comparing the magnitude of the effects with those from other expenses and book value. Chapter 3 presents the second study of the dissertation. The purpose of this study is to investigate the long-term effects of advertising, focusing on the branding channel separated from the sales channel. Advertising effectiveness across different media is also explored. Chapter 4 is the last study of the dissertation. This purpose of this study is to assess advertising effect on financial leverage. Chapter 5 is a conclusion section of the dissertation. This chapter serves as the introduction to the dissertation. The format of this dissertation is the type of format that includes three journal articles.

CHAPTER 2 THE STRATEGIC VALUE OF ADVERTISING EXPENDITURES IN THE HOSPITALITY AND TOURISM INDUSTRY

2.1 INTRODUCTION

Marketing is under increasing pressure to demonstrate the value of its expenditures, especially advertising expenditures (Lodish & Mela, 2007). CEOs and CFOs know that marketing matters but are skeptical of the magnitude of its influence and its contribution to corporate strategy from a long-term perspective (Stewart, 2009). Consequently, the marketing department is losing its strategic role within firms (Verhoef & Leeflang, 2009). Marketing is now perceived as tactical activities for which costs must be controlled, not strategic investments (Stewart, 2009). Under the current dominant accounting policy in U.S. and all over the world, advertising expenditures are fully expensed in the same period incurred and cannot be capitalized. However, with the significant influence of social media and empowered consumers, the academic community in marketing calls for research attention to marketing as an integral part of the organization's decision-making framework (Kumar, 2015). In 2015, the measured advertising expenditures of the tourism and hospitality industry in United States was approximately $9.5 billion (Kantar Media, 2017). For example, Yum! Brands, McDonald's Corporation, and The Walt Disney Company, spent $792.8, $791.7, and $723.4 million dollars respectively on advertising in 2015 (RedBooks, 2017). Given the huge size, there is a need for the hospitality and tourism industry to demonstrate the

contribution of advertising expenditures to firm value and the importance of marketing function to corporate strategy.

Mixed results about advertising value relevance have been reported and a more detailed and industry-wise analysis of firms' advertising value relevance has been suggested as an avenue for future research (Ali Shah & Akbar, 2008). Within the context of the tourism and hospitality research, most previous studies typically relate advertising expenditures to sales and accounting profitability (Assaf, Josiassen, Mattila, & Cvelbar, 2015; Denizci & Li, 2009; Herrington & Bosworth, 2016; Kamal & Wilcox, 2014; Park & Jang, 2012). However, there has been mixed evidence in support of advertising effectiveness, which can be explained by several drawbacks of linking advertising to sales and accounting profitability (Grabowski & Mueller, 1978; Heflebower & Telser, 1969; Hirschey, 1982). Additionally, prior studies consistently support the link between advertising expenditures and firm market value for restaurant firms (Denizci & Li, 2009; Hsu & Jang, 2008; Park & Jang, 2012), and recent emerging research explores the impact of franchising on advertising effectiveness for restaurant and hotel firms (Park & Jang, 2016). However, systematic comparisons across firm investments and sub-sectors have been largely neglected. To further investigate the strategic value of advertising investment decisions in the tourism and hospitality industry, there is a need to answer two questions: How relevant is advertising investment for a company's success compared with other investment alternatives in the tourism and hospitality industry? How does advertising relevance differ across sub-sectors within the tourism and hospitality industry?

Therefore, by using financial data from Compustat, this study aimed to compare the importance of advertising expenditures with other investment alternatives in tourism and hospitality, and to explore the differences in advertising value relevance across sub-sectors within tourism and hospitality.

This study contributed to the literature in several ways. First, this study extended the understanding of advertising effectiveness and brand equity in tourism and hospitality, by investigating a prior neglected role of advertising expenditures, the strategic value of advertising in the broad picture of equity evaluation. This study proposed that tourism and hospitality advertising provide greater future economic benefits than the average return of other assets. Second, this study took an initial attempt to test the sub-sector differences in advertising effectiveness within the tourism and hospitality industry. The tourism and hospitality industry consists of a diverse group of sub-sectors, which create substantial issues in discipline integrity. This study proposed that advertising relevance varies between tourism and hospitality industry and other industries but does not vary across the sub-sectors within the tourism and hospitality industry. Third, this study contributed to the deflator selection literature, by including the scale proxy as an independent variable.

In the following section, this research evaluated three different approaches of advertising effectiveness in general accounting, finance, and marketing literature, as well as in tourism and hospitality literature. After a comprehensive evaluation, the market-based approach was selected for this study. In addition, this research used advanced longitudinal techniques, which could account for correlations among repeated measures and reduce problems associated with omitted variable bias. The magnitude of advertising

value within the context of equity valuation was investigated by comparisons with value of other expenses and value of net assets. The sub-sector differences were then tested by utilizing a larger panel data, which included yearly observations data from multiple firms of three different sub-sectors in the tourism and hospitality industry.

2.2 LITERATURE REVIEW

There are generally three different approaches to investigating the effectiveness of advertising expenditures: advertising and sales approach, advertising and profitability approach, and advertising and market value approach.

Advertising and Sales Approach

Linking advertising expenditures with sales is a typical starting point to assess the effectiveness of advertising. Systematic relationship cannot be consistently found, and results of previous studies vary by industry or sub-industry. Building on the Koyck distributed lag model, Abdel-Khalik (1975) found significant distributed lag effects in food, drugs and cosmetics, but not in the tobacco or the soap and cleansers industry. Consequently, different accounting treatments are recommended in different industries, rather than a uniform accounting policy. Based on a cointegration analysis, Elliott (2001) found that there is a long-run equilibrium relationship between advertising expenditures and sales for the food industry, but not for the more specific soft drinks industry. The industry difference of advertising effects was explained by the fact that the cointegrating relationship between advertising and sales is more likely to exist when demand saturation in that industry has not been reached. Based on a marketing-persistence model, Zhou, Zhou, and Ouyang (2003) suggested the long-lasting television advertising effects on sales existed for consumer durables, but not for consumer nondurables. The reason may

be that purchasing consumer durables is a high-involvement decision, which contains more purchasing risks and needs more information search efforts. Based on the statement from Vaughn (1980) that the involvement level affects receptivity to advertising, Zhou et al. (2003) concluded that purchasing durables requires more thinking process, has long-term memory effects, and builds stronger brand preference.

In tourism and hospitality sub-sectors and related industries, mixed results have been reported using the advertising and sales approach. While some prior studies found no effects of advertising expenditures on sales, other studies reported short-term or long-term effects on sales. From the demand perspective, Duffy (1999) found no effect of advertising expenditures on inter-product distribution of food consumption over the period from 1969 to 1996 in the UK's food sector. Herrington and Bosworth (2016) found there was a lack of relationship between advertising and sales for restaurant chains from 1984 to 2008. However, Simon (1969) found a long-run effect of advertising on sales for 15 of the largest-selling liquor brands in the U.S. from 1953 to 1962. Kamal and Wilcox (2014) found a positive relationship between advertising expenditures and sales of quick-service restaurants from 1986 to 2007 but the impacts small. Furthermore, Park and Jang (2012) found advertising expenditures had a positive short-term effect on sales growth for the restaurant industry from 1995 to 2008. Finally, Assaf et al. (2015) found advertising spending has a positive impact on sales performance measured by the dynamic stochastic frontier approach for a sample of Slovenian and Croatian hotels from 2007 to 2012.

However, the advertising and sales approach is plagued with several issues. Koyck distributed lag model, measuring distributed lag effects of advertising on sales, is a popular way to investigate the magnitude of the advertising effectiveness (Abdel-

Khalik, 1975; Clarke, 1976; Koyck, 1954). However, the distributed lag approach is inappropriate in studying advertising effectiveness due to high multicollinearity between current and past advertising expenditures (Hirschey, 1982; Picconi, 1977). In addition, there is a potential omitted variable problem in previous studies. Landes and Rosenfield (1994) found that many existing economic models failed to control for other firm-specific factors, which could bias the results significantly. Furthermore, the directions of casual relationship are not clear because the causality may run in both directions: advertising may affect sales because advertising influences consumers' preference, and sales may also affect advertising because many firms set their advertising budget based on certain percentage of sales (Herrington & Bosworth, 2016; Lee, Shin, & Chung, 1996).

Advertising and Accounting Profitability Approach

Rather than just focusing on sales, Hirschey (1982) argues that a firm's overall objective in advertising is profit, including increasing sales as well as reducing costs. Specifically, product advertising moves the potential customers through a hierarchy of stages toward a final purchase decision, which is directed toward sales. While, institutional advertising deals with broader stakeholders, it is related to both increasing sales and reducing costs. As a result, the advertising and accounting profitability approach has been suggested as a more comprehensive method than the advertising and sales approach.

However, mixed results have been reported in terms of the relationship between advertising expenditures and accounting profitability. Erickson and Jacobson (1992) found no evidence that advertising expenditures can generate supernormal accounting profits, but Graham and Frankenberger (2000) found advertising expenditures contribute

to earnings for more than one year. In the tourism and hospitality industry, Denizci and Li (2009) found no significant relationship between advertising expenditures and accounting profitability ratios including return on equity, return on assets, and profit margin for 17 large tourism and hospitality firms.

The mixed results can be explained by several drawbacks of this approach, including unadjusted accounting profitability measures and simultaneity causality problem. Before analyzing the determinants of profitability and especially the effect of advertising expenditures on profit rates, the profit rates as the dependent variable must be adjusted (Grabowski & Mueller, 1978). Corrected profit measures should be constructed because the profit measures under the current accounting treatment fail to incorporate the value of firm investments in intangible capitals such as advertising expenditures. The current accounting treatment tends to depreciate tangible assets, while expensing intangible assets, which leads to measurement error of the accounting profit measures, such as net profit, return on equity, return on assets, profit margin, etc. The problem of the accounting bias is particularly severe if the research objective is the role of intangible capitals such as advertising expenditures in explaining variation of profit rates. As a result, the problem of using unadjusted profits leads to systematic bias in regression analysis (Heflebower & Telser, 1969). Furthermore, there is the simultaneous problem of causation between advertising expenditures and profitability. Advertising expenditures can benefit a firm’s profitability by differentiating the firm’s products from competitors, while a firm’s internal funding such as profitability is crucial for determining and financing advertising expenditures (Erickson & Jacobson, 1992).

Advertising and Market Value Approach

In order to avoid the problems in associating advertising expenditures with sales or profitability, a better alternative is the market-based valuation approach (Ali Shah & Akbar, 2008). Based on the efficient market hypothesis (Malkiel & Fama, 1970), market-based valuation approach believes that firm's market value is "the present value of all expected cash flows from a firm's assets and, at any given time, reflects all the available information about a firm's current and future profit potential" (Agrawal & Kamakura, 1995, p. 57). Both tangible and intangible factors that have systematic influences on profitability can be captured by a firm's market value (Hirschey & Wichern, 1984). A firm's market value can be considered as a firm's economic profit based on market participants' valuation of firm stock. Instead of the accounting profit, firm's market value is a more accurate dependent variable that can minimize the measurement error due to accounting bias. Furthermore, there is potential for advertising expenditures to affect both current and future profitability, and firm market value as a future-oriented measure of profitability can capture both the current and future profitability effects of advertising (Ali Shah & Akbar, 2008).

A typical market-based valuation analysis uses the regression model to investigate the relationship between advertising expenditures and firm market value. While the independent variables in the model vary from study to study due to different theoretical frameworks, the dependent variable is often either the firm's market value based on stock price, or firm's market value deflated by some scale variables. For example, firm's sales data has been used as deflator to reduce heteroscedasticity (Han & Manry, 2004). In addition, book value was more often used as deflator in valuation studies (Hirschey,

1982; Hirschey & Weygandt, 1985). Tobin's q, defined as the ratio of market value to replacement costs of its assets by Tobin (1969), is one typical example of using book value as deflator of firm's market value and is often used in tourism and hospitality valuation studies (Denizci & Li, 2009; Hsu & Jang, 2008; Park & Jang, 2012). However, the choice of deflator is concluded to be one factor that contributes to the inconsistent results of previous studies (Ali Shah & Akbar, 2008; Agnes Cheng & Chen, 1997). The underlying reason is that selecting a different deflator means hypothesizing different linear relationship between variables. The advantage of the theoretical framework of this study is that it avoids the problem associated with deflator selection. Book value and sales are both included as independent variables based on this study's theoretical framework, which is a more effective way than deflating regression variables by a scale proxy at mitigating coefficient bias (Barth & Kallapur, 1996). Based on a widely-accepted valuation theory developed by Ohlson (1995) and the following market-based valuation model developed by Han and Manry (2004), this study developed three research hypotheses within the tourism and hospitality industry.

Using advertising and market value approach, Hirschey (1982) found current advertising expenditures have significant and positive influences on the firm's market value, suggesting significant future effects (intangible capital) of advertising. Following Hirschey (1982), the positive effect of advertising on the firm's market value was confirmed, using a slightly different approach by regressing Tobin's q on advertising intensity, research and development intensity, and control variables (Hirschey & Weygandt, 1985). Graham and Frankenberger (2000) also confirmed the positive association between advertising expenditures and firm's market value, based on the

equality of a firm's marketing value and the market value of its net assets (Tobin, 1978). However, Han and Manry (2004) found a negative association between advertising expenditures and stock price, which may result from deflator choice or context difference. In the tourism and hospitality industry, Hsu and Jang (2008) found a positive relationship between current year's advertising intensity and intangible value of restaurant firms measured by Tobin's q. Following Hsu and Jang (2008), Park and Jang (2012) found that advertising intensity had both positive short-term and long-terms effects on Tobin's q in the restaurant industry. Denizci and Li (2009) also found that advertising expenditures are significantly associated with Tobin's q. Finally, Assaf, Josiassen, Ahn, and Mattila (2017) found advertising has a positive impact on market value added for restaurant and hotel segments. In sum, previous studies support the asset value of advertising expenditures on firms' market values in the tourism and hospitality industry (Assaf et al., 2017; Denizci & Li, 2009; Hsu & Jang, 2008; Park & Jang, 2012). From an accounting perspective, if the nature of advertising expenditures is short-lived expenses, advertising can only benefit the current accounting period and the effects quickly decays and should be expensed when incurred. If the nature of advertising expenditures is long-lived assets, the advertising expenditures will benefit beyond the current accounting period in which the expenditure is incurred and should be capitalized and amortized over time (Sorter & Horngren, 1962). Accordingly, Research Hypothesis 1 suggests that the influence of advertising expenditures on firm market value is higher than the influence of other expenses. This indicates that the advertising expenditures do not expire totally in the current year like other expenses; instead, they may have future economic benefits for the firm's market value, which is the core characteristic of assets.

H_1: The average influence of advertising expenditures on firm market value is significantly higher than the average influence of other expenses in the tourism and hospitality industry.

In addition, recent literature empirically shows that the overall importance of brands for consumer decision making differs substantially across types of goods due to the differences in risk reduction and social demonstrance (Fischer, Völckner, & Sattler, 2010). Advertising expenditure is a key element of marketing spending and the major contributor of brand equity (McAlister, Srinivasan, Jindal, & Cannella, 2016). According to information economics theory, consumer's ability to assess product quality prior to purchase vary fundamentally across types of goods, and the guidance they need is higher for experience goods than search goods (Nelson, 1970). Producers of experience goods advertise significantly more than producers of search goods, because advertising for experience goods increases sales by increasing the reputability of brands (Nelson, 1974).

Advertising expenditures are more important for nonmanufacturing firms than manufacturing firms, that have tangible products or technologies that contribute to the firm value (Ho, Keh, & Ong, 2005). Compared with goods products, services products rely more heavily on advertising to deliver tangible and differentiating information about the attributes and benefits of the services to the market, and to build brand value (Pickett, Grove, & Laband, 2001). Furthermore, as tourism and hospitality industry provides hedonic services, it has significantly higher advertising effectiveness on consumer response than utilitarian services such as banking and insurance due to different cognitive processes and greater need to justify hedonic purchases (Décaudin & Lacoste, 2018; Kivetz & Zheng, 2017; Stafford & Day, 1995). At the aggregated firm level, firms with a

strong marketing's influence are more market oriented, and have better performance (Verhoef & Leeflang, 2009). Specifically, advertising has a double positive impact on firm value, through increasing sales and profits and building brand assets (Joshi & Hanssens, 2010). Based on the information economics theory and previous findings, we propose the strategic value of advertising expenditures on firm market value in the tourism and hospitality industry. Accordingly, Research Hypothesis 2 suggests that the influence on firm market value of advertising expenditures is higher than the influence of book value. This indicates that advertising expenditures lead to higher firm market value than the average return of firm value from firm net assets.

H_2: The average influence of advertising expenditures on firm market value is significantly higher than the average influence of book value in the tourism and hospitality industry.

Prior advertising effectiveness research mainly focuses on specific sub-sectors within the tourism and hospitality industry, yet the big picture of the umbrella industry is understudied. The tourism and hospitality industry is categorized as a service industry, providing consumers with an experience as their core product (e.g., a good night's rest, safe transportation, a nice dining experience, etc.). The product offered by the tourism and hospitality industry, being intangible by nature, is typically abstract, perishable, mentally impalpable, non-searchable, inseparable, non-standard, and non-owned (Lovelock & Gummesson, 2004; Mittal & Baker, 2002). Based on the contingency theory, the effect of firm's actions such as advertising on firm performance are moderated by characteristics of the firm and its marketplace (Srinivasan, Lilien, & Sridhar, 2011; Zeithaml, Varadarajan, & Zeithaml, 1988). As a result, Research Hypothesis 3 is to test

whether there is heterogeneity among sub-sectors in the tourism and hospitality industry regarding the effectiveness of advertising expenditures.

H_3: There is a significant sub-sectors difference regarding the effectiveness of advertising expenditures in the tourism and hospitality industry.

2.3 METHODOLOGY

Data

The purpose of this study was to examine the effect of advertising expenditures on firms' market values in the tourism and hospitality industry. From a statistically representative perspective included in the tourism and hospitality industry were airlines, hotels, and restaurants, identified using US Standard Industrial Classification (SIC) codes. SIC 4512 represents airlines, SIC 5812 represents restaurants, and SIC 7011 represents hotels (See Table 2.1). Yearly financial data of public companies, from 2005 to 2014, in North America was retrieved from the Compustat database. As a result, 226 companies were identified. To make data comparable, December fiscal year-ends were used as a screening variable and 192 firms remained in the final sample. As a result, 10-year financial data of 192 firms was collected for the 2005-2014 period. All continuous variables were measured using millions of dollars.

Table 2.1 Example of firms in Tourism and Hospitality Industry

Sub-sector	Company Name
Airlines	American Airlines Groups Inc.
	Southwest Airlines
	United Airlines Inc.
	United Continental Hldgs Inc.

	Delta Air Lines Inc.
	…….
Restaurants	Wendy's Co.
	Dennys Corp.
	Cheesecake Factory Inc.
	Domino's Pizza Inc.
	Jamba Inc.
	…….
Hotels	Marriott Intl Inc.
	Wynn Las Vegas Llc.
	Starwood Hotel & Resorts Wrld.
	Hilton Worldwide Holdings
	Intercontinental Hotels Grp.
	…….

Proposed Models and Variables

The study employed longitudinal analysis to examine the value relevance of advertising expenditures on firms' market values. The defining feature of longitudinal analysis is that the same individuals are measured repeatedly at different times. "With repeated measures on individuals, one can capture within-individual change. Indeed, the assessment of within-subject changes in the response over time can only be achieved within a longitudinal study design (Fitzmaurice, Laird, & Ware, 2012, p. 2)." Longitudinal analysis is the direct study of change over time, which characterizes the change in response over time and the factors that influence change.

The distinguishing advantages of using longitudinal analysis is that it takes account of the correlation among repeated measures, thereby resulting in more accurate inferences (Fitzmaurice et al., 2012). The statistical models for cross-sectional data cannot be used directly in longitudinal data due to the violation of the assumption of independence. The longitudinal data are clustered, there is dependence among within individual measures, and repeated measures made on the same subject are correlated. Within context of this study, observations from different firms are independent, while repeated measurements on the same firm are not independent. Yearly observations within firms tend to be more similar than yearly observations from different firms. Yearly observations closer in time tend to more similar than yearly observations farther apart. Ignoring the correlation among yearly observations of firms will result in biased estimates.

In addition, longitudinal analysis can to a large extent reduce problems of omitted variable bias, thereby leading to more precise estimates. “The beauty of a longitudinal study design is that any extraneous factors (regardless of whether they have been measured) that influence the response, and whose influence persists but remains relatively stable throughout the duration of the study (e.g., gender, socioeconomic status, and many genetic, environmental, social, and behavioral factors), are eliminated or blocked out when an individual’s responses are compared at two or more occasions” (Fitzmaurice et al., 2012, p. 21). By eliminating the “noise”, longitudinal studies can control for the effects of firm-specific latent factors (Erickson & Jacobson, 1992), thereby focusing on systematic differences among individuals in their changes.

This study also adopted the market-based valuation approach by associating advertising expenditures with firms' market values. Market-based valuation model was viewed as a better alternative than relating advertising expenditures to firm sales or accounting profitability for its several advantages discussed before. This study applied the Han and Manry (2004) framework into the context of tourism and hospitality and added sub-industry as a new categorical independent variable in the marginal model. The underlying rationale was to investigate and control the influence of different sub-sectors within the tourism and hospitality industry. In addition, the measures of the Han and Manry's (2004) model were improved to reduce problems associated with deflator selection bias. Furthermore, research and development expenditures are not included in the model as little research and development activity takes place in most consumer service industries (Howells, 2000). The basic marginal model is proposed below:

$$\begin{aligned} P_{kit} + D_{kit} = Intercept &+ \beta_0 * YEAR_t + \beta_1 * BV_{kit} + \beta_2 * SALE_{kit} + \beta_3 * OEXP_{kit} \\ &+ \beta_4 * ADEXP_{kit} + \beta_5 * SIC_k \\ &+ e_{kit} \qquad\qquad\qquad\qquad (Model\ 1) \end{aligned}$$

Where e_{kit} is correlated within firms, suggesting that repeated measurements from the same firm are not assumed to be independent. P_{kit} is in sub-sector k the firm i's market value of common stock three months after the end of year t. D_{kit} is cash dividends in year t. $YEAR_t$ is the yearly intercept to vary yearly over the test period in order to capture the business cycle. BV_{kit} is the book value of net assets before cash dividends at the end of year t. $SALE_{kit}$ is the net sales in year t. $OEXP_{kit}$ is other expenses in year t. $ADEXP_{kit}$ is advertising expenditures in year t. P_{kit} and D_{kit} were added together to form one dependent variable, which is continuous. BV_{kit}, $SALE_{kit}$, $OEXP_{kit}$, and $ADEXP_{kit}$ are continuous independent variables, while $YEAR_t$ and SIC_k are categorical independent variables.

In order to investigate the influence of sub-sector differences on the advertising effectiveness within tourism and hospitality industry, the possible heterogeneous slopes of advertising expenditures were tested by adding the interaction of SIC_k and $ADEXP_{kit}$ into the previous marginal model as a fixed effect. The marginal model with interaction was proposed below:

$$\begin{aligned} P_{kit} + D_{kit} = Intercept &+ \beta_0 * YEAR_t + \beta_1 * BV_{kit} + \beta_2 * SALE_{kit} + \beta_3 * OEXP_{kit} \\ &+ \beta_4 * ADEXP_{kit} + \beta_5 * SIC_k + \beta_6 * SIC_k * ADEXP_{kit} \\ &+ e_{kit} \qquad (Model\ 2) \end{aligned}$$

Furthermore, in order to account for the heterogeneity among firms in different sub-sectors, SIC was included as a random effect in a three-level model and a random slope of $ADEXP_{kit}$ was included to vary across sub-industries level. As a result, in addition to the marginal models, this study also proposed the following multilevel random effect model:

$$\begin{aligned} P_{kit} + D_{kit} = Intercept &+ \beta_0 * YEAR_t + \beta_1 * BV_{kit} + \beta_2 * SALE_{kit} + \beta_3 * OEXP_{kit} \\ &+ (\beta_4 + b_k) * ADEXP_{kit} + r_k^{(3)} + r_{ik}^{(2)} \\ &+ e_{kit} \qquad (Model\ 3) \end{aligned}$$

$r_k^{(3)}$ is the random intercept of sub-sector level, $r_{ik}^{(2)}$ is the random intercept of firm level. SIC was used for level 3 classification, instead of a fixed effect. b_k is the random slope of $ADEXP_{kit}$ in the sub-sector level.

The proposed research hypotheses can also be expressed mathematically. Research Hypotheses 1 and 2 were tested in the basic marginal model (Model 1). H1 suggests that the coefficient of advertising expenditures is higher than the coefficient of other expenses in the model 1. Furthermore, H2 suggests that the coefficient of advertising expenditures is higher than the coefficient of book value in Model 1.

Research Hypothesis 3 was tested in the marginal model with interaction (Model 2) and the multilevel random effect model (Model 3) respectively. In Model 2, H3 suggests that the coefficient of the interaction of advertising expenditures and SIC is different from 0. Furthermore, in the Model 3, H3 suggests that the variance of the random slope of advertising expenditures in sub-sector level is different from 0.

H_1: $\beta_4 > \beta_3$

H_2: $\beta_4 > \beta_1$

H_3: $\beta_6 \neq 0\ in\ model\ 2$

H_3: $var(b_k) \neq 0\ in\ model\ 3$

In terms of the measures of the variables, BV_{kit}, $SALE_{kit}$, $OEXP_{kit}$, $ADEXP_{kit}$, and D_{kit} come from annual company data, while P_{kit} comes from quarterly company data (See Table 2.2). The 3-month delay of P_{kit}'s measure allowed the market to deal with the release of the information (Han & Manry, 2004). $OEXP_{kit}$ was measured by subtracting advertising expenditures from all the expenses in earnings before extraordinary items. The sum of P_{kit} and D_{kit} was used as the dependent variable Y in this study.

Table 2.2 Measures of Variables

Variable	Measure
P_{kit}	Market value for firm i in sub-sector k at the end of March in year t+1
D_{kit}	Cash dividend for firm i in sub-sector k at the end of December in year t
$YEAR_t$	Categorical variable of year, from 2005 to 2014
BV_{kit}	Book values for firm i in sub-sector k at the end of December in year t
$SALE_{kit}$	Net sales for firm i in sub-sector k at the end of December in year t
$OEXP_{kit}$	Other expense for firm i in sub-sector k at the end of December in year t (Net sales-earning before extraordinary items-advertising expenditures)

$ADEXP_{kit}$	Advertising expenditures for firm i in sub-sector k at the end of December in year t
SIC_k	Standard Industrial Classification code: 4512 for airlines, 5812 for restaurants, and 7011 for hotels

Data was screened before analyses. Both a marginal model and a three-level random effect model were used in this study. Specifically, three different marginal models with different correlation matrix assumptions were tried and compared. A three-level model with random effects was then employed.

2.4 RESULTS

Screen Data

Data was screened prior to parametric testing. In regard to missing data, list-wise deletion was used in this study because the distribution of missing data in the sample suggested the type of missing data was missing completely at random (MCAR). As a result, 102 firms and 545 yearly observations remained in the sample. The normality assumption was violated based on quantile plot of residuals. Natural logarithmic transformation was applied to the dependent variable Y to reduce the kurtosis and skewness to acceptable levels.

Marginal Model

With the cleaned data, a marginal model was employed. Based on the comparison of AIC and BIC among different models with different correlation matrix assumptions, the model using an AR(1) correlation matrix assumption was preferred. This correlation matrix assumption also met the reality because when the yearly observations got closer, the correlation got larger. Based on Type 3 tests of AR (1) model, YEAR, BV, SALE, OEXP, ADEXP, and SIC were all statistically significant at the 0.05 significance level.

Table 2.3 shows the coefficient estimates obtained. YEAR was significant across all 10 years except for year 2006 ($p=0.1071$). In terms of SIC, the influence of airline sub-sector on firm market value was not significantly different from the influence of hotel sub-sector ($p=0.6999$), and restaurant didn't have a significant difference on firm market value from hotel sub-sector ($p=0.0812$). Book value and other expenses had a significantly positive influence on firm market value (for book value, $\beta=0.0002$, $p<0.0001$; for other expenses, $\beta=0.000116$, $p=0.0006$). Sales significantly affected firm value but the magnitude of the influence was very small ($\beta=-0.00008$, $p=0.0416$). Advertising expenditures had a positive influence on firm market value, and the magnitude of the influence was very large compared to other factors ($\beta=0.004189$, $p<0.0013$).

Table 2.3 Coefficient Estimates in AR(1) Model

Effect	year	sic	Estimate	SE	DF	t	p
Intercept			6.605600	0.475200	99	13.900000	<.000100
YEAR	2005		-0.421400	0.203100	430	-2.080000	0.038600
YEAR	2006		-0.315400	0.195300	430	-1.610000	0.107100
YEAR	2007		-0.730400	0.186900	430	-3.910000	0.000100
YEAR	2008		-1.372000	0.177300	430	-7.740000	<.000100
YEAR	2009		-0.698700	0.167400	430	-4.170000	<.000100
YEAR	2010		-0.538100	0.153200	430	-3.510000	0.000500
YEAR	2011		-0.560400	0.134000	430	-4.180000	<.000100
YEAR	2012		-0.358300	0.111600	430	-3.210000	0.001400
YEAR	2013		-0.162700	0.078760	430	-2.070000	0.039500
YEAR	2014		0	.	.	.	.

BV		0.000200	0.000021	430	9.350000	<.000100
SALE		-0.00008	0.000037	430	-2.040000	0.041600
OEXP		0.000116	0.000034	430	3.450000	0.000600
ADEXP		0.004189	0.001297	430	3.230000	0.001300
SIC	Airline	0.234100	0.605600	99	0.390000	0.699900
SIC	Restaurant	-0.880800	0.499900	99	-1.760000	0.081200
SIC	Hotel	0	.	.	.	.

F test was employed for the hypothesized comparisons of certain coefficient estimates. The coefficient estimate of advertising expenditures was significantly larger than that of other expenses ($p=0.0018$, See Table 2.4). Furthermore, the coefficient estimate of advertising expenditures was significantly larger than that of book value ($p=0.0023$).

Table 2.4 Contrasts Results

Label	Num DF	Den DF	F	p
ADEXP-OEXP	1	421	9.880000	0.001800
ADEXP-BV	1	421	9.440000	0.002300

In order to understand the sub-sector difference on the influence of advertising expenditures on firm market value, the interaction of SIC and ADEXP was added into the previous marginal model as a fixed effect to test heterogeneous slopes. Based on the p value of type 3 tests of fixed effects, the interaction variable was not statistically significant ($p=0.5318$). In addition, the model fit statistics AIC and BIC were increased by adding the interaction (AIC: from 1190.6 to 1207; BIC: from 1196.3 to 1212.6), suggesting model fit was not improved and there was no need to add the interaction. As a

result, there was insufficient evidence that the slopes of advertising expenditures differed significantly among sub-sectors in the marginal model.

Three-Level Random Effect Model

An alternative approach to test possible heterogeneous slopes was to include variable ADEXP as random slope at the sub-sector level in three-level random effect model, which could account for the heterogeneity among firms in different sub-sectors. A three-level random effect model was used in the following study: level 1 was yearly observations, level 2 was firms, and level 3 was sub-sectors. A random slope of ADEXP was added into the sub-sector level, allowing the relationship between the predictor ADEXP and the outcome Y to vary across sub-sectors. The results of fixed effects section were similar with the previous marginal model.

Examining the random effect section, there was significant variability in between-firm level and within-firm level, not in between sub-sector level. In terms of the three levels, 83% of the variation in firm value was significantly explained by between firms' variability ($p<0.0001$, See Table 2.5). On the contrary, 7% of the variation in firm value was explained by sub-sector variability, but it was not significant ($p=0.2531$). Approximately 10% of the variation in firm value was significantly explained by within firms' variability ($p<0.0001$). As a result, individual variability had a larger and more consistent contribution to the firm value variance than sub-sector variability. The random slope of ADEXP was not statistically significant based on the p value for the estimated variance components ($p=0.3865$). In addition, the model fit AIC and BIC were not improved when the random slope was added to the three-level random effect model.

Thus, the association between ADEXP and Y didn't vary significantly among sub-sectors.

Table 2.5 Covariance Parameter Estimates in Three-Level Model

Cov Parm	Subject	Estimate	SE	Z	p
Intercept	ID	2.452000	0.368300	6.660000	<.000100
Intercept	SIC	0.205600	0.309300	0.660000	0.253100
ADEXP	SIC	0.000004	0.000014	0.290000	0.386500
Residual		0.294300	0.020150	14.610000	<.000100

2.5 CONCLUSIONS

This study investigated the economic effects of advertising expenditures on firms' market values in the tourism and hospitality industry. Market-based valuation approach and longitudinal analysis were selected as robust theoretical framework and methodological model. The findings of this study indicated advertising expenditures in the tourism and hospitality industry have strategic asset value captured by the market participants. This suggests that tourism and hospitality advertising provides greater future economic benefits than the average return of net assets. In addition, there is no significant heterogeneity among different sub-sectors in tourism and hospitality industry regarding the advertising's effectiveness.

Within tourism and hospitality context, the economic benefits from advertising expenditures didn't expire fully in the current period, unlike other expenses. Results showed that advertising expenditures had a larger positive impact on firm market value than other expenses. Controlling other variables as constant, a $1-million increase in advertising expenditures would lead to an approximate a 0.4198% increase in firm

market value. On the contrary, controlling other variables as constant, a $1-million increase in other expenses would lead to a 0.0116% increase in firm market value. This large difference in magnitude indicated that advertising expenditures should not be fully expensed and may have some future economic benefits, like assets. This finding is consistent with the previous results of advertising asset value using marketing-based valuation approach (Denizci & Li, 2009; Hsu & Jang, 2008; Park & Jang, 2012).

Furthermore, firm market value priced advertising expenditures significantly higher than other assets in the tourism and hospitality industry. Results showed that advertising expenditures had a larger positive impact on firm market value than book value. Keeping other variables constant, a $1-million increase in advertising expenditures would lead to an approximate a 0.4198% increase in firm market value. On the contrary, controlling other variables as constant, a $1-million increase in book value would only lead to a 0.02% increase in firm market value. This magnitude comparison indicated that the future economic benefits from advertising expenditures were expected to be significantly higher than a normal return from ordinary net assets. This finding provides new insights regarding the magnitude of advertising value in the tourism and hospitality industry. Advertising expenditures brings significantly numerous benefits to firms in the tourism and hospitality industry and should be valued as strategic investments in intangible assets in this industry.

Interestingly, the findings are inconsistent with Han and Manry’s conclusion about short-lived nature of advertising expenditures, indicating that advertising effectiveness differs between tourism and hospitality industry and other industries. In addition, in terms of Research Hypothesis 3, there is insufficient evidence that there is

heterogeneity regarding the effectiveness of advertising expenditures across sub-sectors in the tourism and hospitality industry. In sum, advertising effectiveness is sensitive to between-industry difference, but is not sensitive to sub-sectors difference within the tourism and hospitality industry.

This study contributes to the literature in several ways. First, this research extends previous findings on advertising effectiveness in the tourism and hospitality industry. Tourism and hospitality advertising expenditures not only positively contribute to firm market value, but also have the strategic value compared with the average return of net assets. Inconsistent with the perception of marketing's declining position in manufacturing industries (Auh & Merlo, 2012), our results suggest that marketing should be considered as board-level strategic investments in service firms. In addition, marketing department in service firms should be viewed as a strategic function relative to other business functions, rather than as a cost center with a declining functional position. Second, this study is one of the few exploratory studies, which empirically tests the sub-sectors' differences in the tourism and hospitality industry. Advertising effectiveness in the tourism and hospitality is sensitive to between-industry difference but is not sensitive to within-industry difference. Therefore, although the dichotomy between services and goods marketing are blurred under the emerging paradigm of service-dominant logic (Baron, Warnaby, & Hunter-Jones, 2014), this study suggests that services marketing is different from goods marketing in terms of marketing relevance, specifically marketing's strategic dimensions. Third, this study contributes to the deflator selection literature by including sales and book value as independent variables in the model.

This study has financial management implications for firms in the tourism and hospitality industry. The strategic value of advertising significantly justifies the power of advertising expenditures and the role of marketing department within tourism and hospitality firms. Advertising managers in the tourism and hospitality industry receive empirical supports from this study to invest money into advertising media and promotional expenditures in order to deliver value to the market. Furthermore, this study indicates that advertising expenditures in the tourism and hospitality industry can bring considerable future benefits to firms, indicating that the effects of advertising are lasting, and advertising of firms will not be forgotten by the market participants from a forward-looking perspective. Tourism and hospitality marketers should play a more strategical role within the firms instead of tactical decisions and focus on developing long-term customer relationships and brand equity rather than short-term transactions. Financial managers that temporarily face cash constraints can reduce advertising this year without any major impacts until the future.

In terms of practical accounting policy implication, this study provided empirical evidence in the tourism and hospitality industry as a whole to answer the accounting policy question of whether to capitalize or expense advertising expenditures from a market value perspective. The current simplified accounting policy implies that advertising expenditures are only value-relevant to the financial performance in the current year, and they do not have long-term effects on firm market value. However, this research suggested that the accounting policy treat advertising expenditures in the tourism and hospitality industry as intangible assets to be amortized over their useful lives. Advertising expenditures in the tourism and hospitality industry should be treated

as strategic investments and long-lived assets rather than current period expenditures and short-lived expenses. The findings from this study are expected to lead to improvements in the quality of financial statements and provide the impetus for making more informed strategic decisions within the tourism and hospitality industry.

Despite the theoretical and practical contributions, there are some limitations in this study which may provide directions for future research. The data was limited within accounting and financial context. Specifically, the sample was limited to publicly traded firms, and the advertising expenditures were only measured by accounting records, which may ignore other information. Future research could explore broader data sources beyond the accounting and financial system. In addition, this study is limited to the tourism and hospitality industry, and therefore the strategic value of advertising expenditures may not be generalized to other industries. Future research may apply this research design into other industry settings and explore more empirical findings. Furthermore, estimating an amortization rate of advertising assets for tourism and hospitality industry will be another area of future research. From a statistical perspective, the negative relationship between sales and firm value may indicate multicollinearity problems, and more advanced statistics dealing with multicollinearity of panel data could be explored in future research. Last but not the least, this study only assumes multiplicative scale effect. Diagnosing other types of scale effect could also be explored in future research.

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CHAPTER 3 HOW HILTON BESTS MARRIOTT IN BRANDING? UNDERSTANDING THE LONG-RUN IMPACTS OF ADVERTISING EXPENDITURES

3.1 INTRODUCTION

Hotel firms advertise heavily but marketers need to justify their advertising budgets financially. In 2017, U.S. hotels have spent 6.5% of their revenue on marketing, accounting for the second-largest non-departmental costs (STR, 2018). However, financial managers are concerned about how effective advertising is in the short and long run. Compared to other elements in the marketing mix, advertising may have the longest carryover effect (Keller, 1993). For example, different from price promotions, which have a direct effect on sales but do not last, advertising has long-term effects beyond the current period of ad exposure. In spite of the growing literature on advertising's effects on sales, profits, and firm market value (Qi, Cárdenas, Mou, & Hudson, 2018), the long-term dimension of advertising effectiveness still remains unclear. Therefore, this research aimed to address this gap and focus on measuring the long-term effects of advertising in the hotel industry.

To further improve advertising effectiveness, marketers need to understand how advertising works. Does advertising work by generating sales and/or building brand assets? Marketers need to understand the underlying mechanisms in order to better allocate advertising spend over time. Although the advertising's impact on firm value through tangible firm sales has been well documented in previous literature (Park & Jang,

2016), further research is needed to determine the long-term impact on firm value through firm's intangible assets (i.e. through building brand equity). Therefore, this study aimed to investigate the underlying channels through which advertising can grow firm market value and disentangle the branding channel form the sales channel in the long term. Furthermore, the growth of online advertising has changed the traditional advertising budget allocation. People are consuming more media nowadays. While the Internet offers new ways of advertising (Pergelova, Prior, & Rialp, 2010), TV advertising is still effective due to the broad research (Dawes, Kennedy, Green, & Sharp, 2018). There is a need for accountability research to guide advertising media spending decisions. This study also explores advertising long-run effects across different media outlets, including television, print, the Internet, and outdoor.

Hilton Worldwide Holdings Inc. and Marriott International Inc. were selected in this study for comparing advertising effectiveness from a long-run perspective. The two companies are ranked as the top two most valuable hotel brands and brand equity is critical for their marketing communications. They are comparable in the size both in the number of units, as well as of advertising expenditures, both spend approximately 1% of sales revenue on advertising. However, Hilton gets a better branding outcome than Marriott. Specifically, Hilton is valued at $7.8bn by brand valuation in 2018 while Marriott is valued at $ 5.3bn in 2018 (Brand Finance, 2018).

3.2 LITERATURE REVIEW

There are two main research paradigms in advertising effect research: the modeling paradigm and the behavioral paradigm (Tellis, 2003). The modeling paradigm focuses on the effect of advertising budgets or ad exposures on market outcomes (i.e.,

sales, market share, or brand choice). The behavioral paradigm generally uses consumers' mental processes to explain the effects of ad appeals. While previous advertising studies have focused on individual-produced cognitive, attitudinal, and behavioral effects (Kim, Hayes, Avant, & Reid, 2014), the current study follows the modeling paradigm because this study aimed to contribute to advertising accountability literature and industry-specific practices.

Long-run advertising impacts

Advertising is defined as "a paid, mediated form of communication from an identifiable source, designed to persuade the receiver to take some action, now or in the future" (Richards & Curran, 2002, p.74). The nature of the communications between the advertiser and the audience is becoming more active, dynamic, and complex (Aitken, Gray, & Lawson, 2008). With new media and new technologies, empowered consumers now actively seek out and engage in advertising (Dahlen & Rosengren, 2016). For example, Hilton's "Our Stage. Your Story" campaign in 2014 encouraged consumers to share their travel photos and cocreate the video ads based on the user-generated content. The consumer-generated advertising benefit from enhanced consumer engagement and relationship building as well as increased trustworthiness (Lawrence, Fournier, & Brunel, 2013). In light of the service-dominant logic of marketing, which focuses on co-production of value by both the advisor and the audience (Vargo & Lusch, 2004), future research is needed to assess advertising effectiveness in the new era.

It is well documented that advertising generates sales. The effects of advertising on sales are not entirely instantaneous (Tellis, Chandy, & Thaivanich, 2000). Consumers may not respond to an ad immediately, instead, they tend to take time to think about the

ad message or discuss with friends before purchasing (Tellis, 2003). The carryover effect of advertising has been investigated in prior studies. However, inconsistent results have been reported possibly due to data aggregation level (Clarke, 1976). Therefore, monthly data was used in this research in order to complement existing hospitality advertising effectiveness literature focusing on yearly data.

In addition to advertising's sales effects in the short and long run, advertising is suggested to have a long-term brand effect. The long-term effects can be explained by the concept of memory from the neuroscience literature. Advertising influence consumers through memory (Mehta & Purvis, 2006), which is dynamic (Braun, 1999) and has the ability to last (Sharp, 2016). Due to the gap between ad exposure and consumer behavior, advertising works through consumers' memory (Ehrenberg, Barnard, Kennedy, & Bloom, 2002). Recent research has shown that advertising works mainly by refreshing and building memory structures. For established large brands, this month's sales are mainly generated from previous marketing efforts (Dawes et al., 2018).

The previous meta-analyses have suggested overall estimates of advertising effectiveness as well as future research directions (Eisend & Tarrahi, 2016; Sethuraman, Tellis, & Briesch, 2011). Advertising is overall effective based on the meta-meta-analytic effect size of .20 generalized from previous meta-analyses of advertising studies (Eisend & Tarrahi, 2016). Advertising can affect sales and other performance measures both in the short and long run. The previous meta-analysis has found that short-term advertising elasticities range from -.35 to 1.80 with a mean of .12 and a median of .05, and the long-term advertising elasticities range from -1.2 to 4.5 with a mean of .24 and a median of .10 (Sethuraman et al., 2011). In addition, they have found that product type can influence

both short- and long-term advertising elasticity but there is a lack of research on service goods, which calls for future research.

To quantify the total long-term impact of advertising, there are six main factors through which advertising can affect firms' performance: immediate effects, carry-over effects, purchase reinforcement, feedback effect, decision rules, and competitive reactions (Dekimpe & Hanssens, 1995). According to the authors, specifically, immediate effects reflect how current advertising influences current firm performances. Carry-effects reflect how current advertising is carried over to influence future firm performances such as in one or two months. Purchase reinforcement reflects how current advertising-induced firm performances influence future performances due to repeated purchase. Feedback effects reflect how current advertising-induced firm performances influence future advertising. Decision rules reflect how current advertising influences future advertising due to ad spending pattern. Competitive reactions reflect how competitive environment influences advertising effectiveness. To assess the total long-term advertising impacts, this study has recognized the multiple channels in the model.

H_1: Advertising has a long-term effect on firm value for hotel firms.

Advertising and brand equity

Brand equity, defined as the value consumers associate with a brand (Aaker, 1991), consists of the collection of long-term brand memories (Keller & Lehmann, 2003). Marketing is moving away from the traditional customer-centric view to a broader perspective of stakeholder marketing (Hillebrand, Driessen, & Koll, 2015). Under the new theoretical perspective, firm performance measures in advertising effectiveness research should go beyond sales, profits, and market share and focus on long-term,

intangible and indirect creation of value such as building a firm reputation and stakeholder relationships (Surroca, Tribó, & Waddock, 2010). Empirical findings using survey data have suggested that advertising can not only increase tangible sales but also build intangible brand reputation, leading to higher brand equity measured by relative price and market share (Chaudhuri, 2002). Previous research has separated the brand value effect from the advertising effect when assessing long-term advertising effects (Eng & Keh, 2007). Their results have shown both advertising and brand value improve firms' future operating performance measured by accounting returns. Furthermore, the long-term metric has been extended to the firm value measured by stock return, and tangible and intangible effects of advertising on investor response has been found (Joshi & Hanssens, 2010). However, the variability of the long-term effects across firms may result from firms' advertising and branding strategy, which calls for industry-specific and firm-specific further research.

Within the context of tourism and hospitality, advertising could bring tangible (i.e., sales and profits) and intangible (i.e., brand equity) values (Kim, Jun, Tang, & Zheng, 2018). However, Kim et al. (2018) have found that while advertising positively affect sales in the short term, there is a negative effect of advertising on brand equity in the short term and no indirect effect of advertising through brand equity. Previous firm-level studies in hospitality have examined the direct effects of advertising on sales, profits, and firm market value (Chen & Lin, 2013; Chen, 2015; Hsu & Jang, 2008; Park & Jang, 2012; Park & Jang, 2016). However, these studies have provided mixed findings regarding advertising effectiveness based on different measures of firm performance. There is a need for future research focusing on the indirect effects of advertising on firm

value in connection to building brand assets. Empirical findings have shown that hotel advertising expenditures have a positive impact on the room revenue and room rate, suggesting that advertising may create intangible brand benefits such as the price premium (Chen & Lin, 2013). However, there is a lack of awareness among hoteliers regarding the importance of building brand assets. Based on a survey from 317 U.S. hotel owners and managers, the branding strategy is not considered to significantly affect hotel performance, relative to human resource strategy and information technology strategy (Tavitiyaman, Qiu, Zhang, & Qu, 2012). Therefore, this study aims to investigate whether advertising has a long-term effect on firm value through building brand-related intangible assets, beyond the tangible effect through sales.

H_2: Advertising has an indirect long-term effect on firm value through branding channels for hotel firms.

Long-run advertising impacts by media

The media dynamics drive the evolution of advertising (Kerr & Schultz, 2010). Advertising spending across media is continuously changing over time. One of the earliest definitions of advertising is “selling in print” (Starch, 1923), reflecting the media of the time (Nan & Faber, 2004). After that, a boarder range of new media has been used in the advertising industry such as radio after three decades and television after another decade (Dahlen & Rosengren, 2016), followed by the Internet after the mid-1990s (Kim & McMillan, 2008). U.S. advertising spending is growing, especially in online advertising. Online advertising spending has reached $108.64 billion in 2018 and is estimated to account for 54.2% of the total U.S. ad spending in 2019 (eMarketer, 2019).

To meet the challenges of evolving media dynamics, this study examined advertising relevance across different media including both traditional and online media channels. Advertising effects may vary across different media outlets (television, print, the Internet, and outdoor), based on the three criteria including the quantity of reach, quality of reach, and product message (Sridhar, Germann, Kang, & Grewal, 2016). While offline (TV, print, outdoor, and radio) advertising effectiveness has been examined in previous literature, there is a need for future research on online advertising value assessment (Hanssens & Pauwels, 2016; Sethuraman et al., 2011).

In the hotel context, previous research has found that hotel advertising has a positive impact on sales and hotel size and star ratings moderate the advertising effects (Assaf et al., 2015). Further investigation is needed on how firm characteristics and ad characteristics lead to different advertising effectiveness.

H_3: Advertising has a different long-term effect on firm value across different media types for hotel firms.

3.3 METHODOLOGY

Data

Monthly data on the market-to-book ratio (MBR), sales, and advertising expenditures (AD) of Hilton Worldwide Holdings Inc. and Marriott International Inc., from January 2014 to June 2018 (totally 54 months), were obtained from the COMPUSTAT, CRSP, and Kantar Media databases. In addition to the total advertising spending, advertising spending through different media outlets were also obtained, including television (network TV, cable TV, syndication, and spot TV), print (magazines,

Sunday magazines, national newspapers, and newspapers), Internet (online display and paid search), and outdoor. All variables were taken in natural logarithms.

Proposed models and variables

In order to recognize the feedback effects of MBR, sales, and advertising expenditures, persistence modeling was employed in this study (Dekimpe & Hanssens, 2018). The persistence modeling was selected because it can account for long-term effects and endogeneity issues (Joshi & Hanssens, 2010).

$$\begin{bmatrix} \Delta MBR_t \\ \Delta \mathrm{R}_t \\ \Delta AD_t \end{bmatrix} = \begin{bmatrix} \pi_{11}^1 & \pi_{12}^1 & \pi_{13}^1 \\ \pi_{21}^1 & \pi_{22}^1 & \pi_{23}^1 \\ \pi_{31}^1 & \pi_{32}^1 & \pi_{33}^1 \end{bmatrix} \begin{bmatrix} \Delta MBR_{t-1} \\ \Delta \mathrm{R}_{t-1} \\ \Delta AD_{t-1} \end{bmatrix} + \cdots + \begin{bmatrix} \pi_{11}^j & \pi_{12}^j & \pi_{13}^j \\ \pi_{21}^j & \pi_{22}^j & \pi_{23}^j \\ \pi_{31}^j & \pi_{32}^j & \pi_{33}^j \end{bmatrix} \begin{bmatrix} \Delta MBR_{t-j} \\ \Delta \mathrm{R}_{t-j} \\ \Delta AD_{t-j} \end{bmatrix} + \begin{bmatrix} u_{MBR,t} \\ \mathrm{u}_{R,t} \\ u_{AD,t} \end{bmatrix} (1)$$

where MBR_t is the market-to-book ratio of the firm in month t, and ΔMBR_t is the difference of MBR between month t and month t-1. R_t is the sales revenue in month t, and $\Delta \mathrm{R}_t$ is the difference in sales revenue between month t and month t-1. AD_t is the advertising expenditures in month t, and ΔAD_t is the difference in advertising expenditures between month t and month t-1. J is the lagged periods which can be determined by Hannan–Quinn information (HQ) criterion. For example, π_{13}^j is the impact of a one-unit ΔAD shock on ΔMBR j period later.

The model has recognized multiple channels of effects: 1) π_{13}^j and π_{23}^j reflect the carryover effects of advertising in one month on MBR and sales in future months. 2) π_{31}^j and π_{32}^j reflect the feedback effects of current MBR and sales on future advertising. 3) π_{33}^j reflects the firm-specific decision rules between current advertising and future advertising. 4) π_{11}^j, π_{12}^j,π_{21}^j, and π_{22}^j reflect the purchase reinforcement of MBR and

sales. 5)The contemporaneous effects are reflected in the variance-covariance matrix of the residuals.

Augmented Dickey-Fuller (ADF) unit root tests were first conducted to determine whether the variables are stable or evolving. If all variables are stationary, vector autoregression (VAR) models were used. If any variable is evolving, Phillips and Ouliaris cointegration tests were further conducted to determine whether there is a long-run equilibrium between evolving variables. Specifically, if cointegration exists, vector error correction models (VECM) were used. If not, all variables were taken differences and the process was repeated starting from ADF tests.

3.4 RESULTS

Long-term advertising effects of Hilton vs. Marriott

For Hilton, following the steps, all variables including AD, R, and MBR were taken first differences. After that, at least one of the three variables were evolving. Further, results from the Phillips and Ouliaris cointegration test showed that a long-run equilibrium between evolving variables existed. Therefore, VECM was used. Results from VECM showed that advertising did have a long-run impact on MBR for Hilton. Specifically, Figure 3.1 demonstrated advertising's impacts on MBR over time. For Hilton, in the long run, the confidence intervals did not include zero, suggesting a significant long-term impact of advertising on MBR for Hilton.

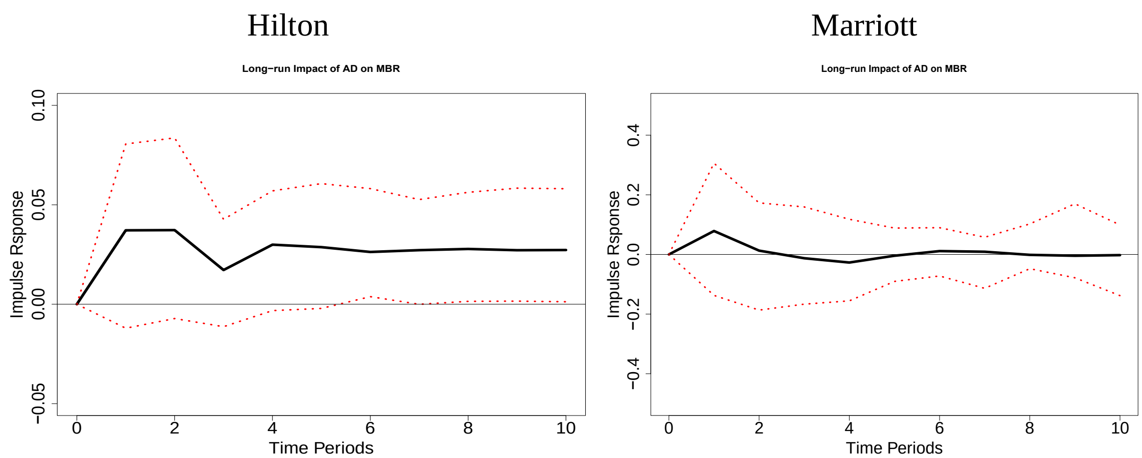

Figure 3.1 Long-run Impacts of Advertising on MBR for Hilton vs. Marriott

For Marriott, all variables were taken first differences. After the first differences, all three variables were stationary. Therefore, the VAR model was employed. Results showed that Marriott's advertising did not have a long-run impact on MBR. Specifically, Figure 3.1 demonstrated that confident intervals included zero over time, suggesting an insignificant long-run impact of Marriott's advertising on firm market value.

In sum, results showed that Hilton's advertising had a long-run impact on firm market value. However, Marriott's advertising did not show a significant long-run impact on firm market value.

Branding effects of Hilton's advertising

To further investigate the long-run impacts of Hilton's advertising, forecast error variance decompositions (FEVD) were employed, which excluded simultaneous shocking. The FEVD results showed the direct long-run impact of advertising on firm market value relative to its indirect impact via sales. Table 3.1 showed the percentage of the forecast error variance of MBR that was attributable to advertising, separated from contributions of other factors. Specifically, advertising initially had a small impact on MBR in period 2, which explained 1.6% of the variance. Gradually the advertising's

impact increased over time and explained 2.5% of the variance in period 10. Therefore, there was a brand-building effect from Hilton's advertising, separated from the tangible effect via sales.

Table 3.1 Results of Forecast Error Variance Decompositions for Hilton

Period	AD
1	0.000
2	0.016
3	0.024
4	0.022
5	0.023
6	0.024
7	0.024
8	0.025
9	0.025
10	0.025

Therefore, results indicated that Hilton's advertising had a long-term effect on firm market value through its branding effect, which was beyond the effect of advertising on sales. Specifically, the impact of Hilton's advertising was small initially, but increased over time and finally accounted for 2.5% of the variance (see Figure 3.2).

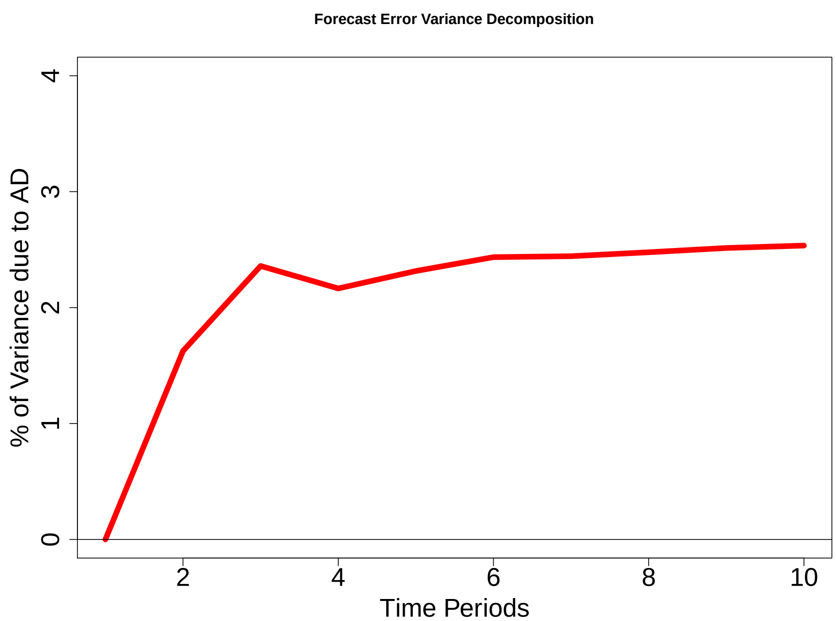

Figure 3.2 Advertising's Branding Impact for Hilton

Long-run impact of Hilton's advertising by media

To further explore the advertising allocation for Hilton, advertising effects across four media outlets were examined. Descriptive statistics showed that during the study period Hilton spent approximately $3,359,395 monthly on television advertising, $1,917,464 on print advertising, $1,355,126 on Internet advertising, and $689,059 on outdoor advertising. Furthermore, time-series models showed that television advertising and Internet advertising had positive and significant long-run impacts on MBR (See Figure 3.3). However, print advertising did not have a significant long-run impact on MBR. Outdoor advertising had a significant negative impact on MBR (See Figure 3.3).

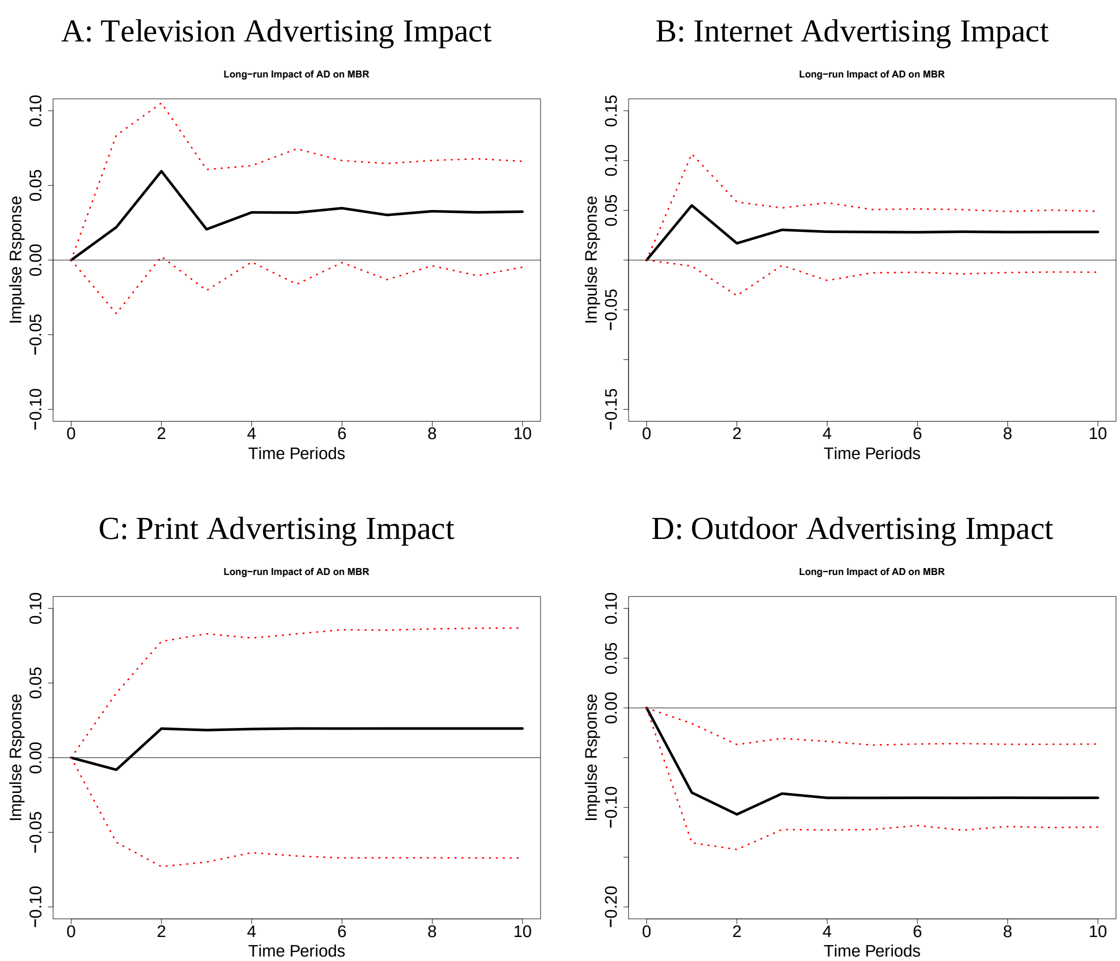

Figure 3.3 Long-run Impact of Hilton's Advertising through Different Media Outlets

In order to account for the seasonality factor when evaluating advertising effect (Joshi & Hanssens, 2010), additional analysis was conducted by including the seasonality variable into the current model as an exogenous variable. The findings remained stable, suggesting the robustness of the results.

3.5 CONCLUSIONS

Based on the results, Hilton's advertising expenditures have a long-term effect on firm market value, beyond the impact of advertising's influence on sales. Therefore, the branding effect of advertising expenditures on firm value is suggested, which coexists with the advertising's tangible effect through sales. Furthermore, advertising effectiveness differs across media.

Results in this study suggest that Hilton outperforms Marriott in terms of long-term advertising impacts. The findings are inconsistent with previous research that concludes larger hotels have stronger advertising effectiveness (Assaf, et al., 2015). Hilton, although ranked as No. 2 by rooms after Marriott's acquisition of Starwood in 2016, remains the most valuable hotel brand globally. This difference may be explained by firm-specific characteristics such as different roles of advertising in the firms. Advertising, when considered as the strategic growth driver and integrated with other marketing mix elements, could bring more value to the firm (Hanssens & Pauwels, 2016). For example, Hilton has combined the advertising activities with its pricing and distribution decisions to create sustainable growth. To compete with growing online travel agencies and Airbnb, Hilton launched a large campaign of "Stop Clicking Around" in 2016, urging consumers to book directly with Hilton. Beyond sales growth, this campaign has changed the misunderstanding about direct booking by connecting direct

booking with the best value. However, the scope of the marketing department within the firm seems to be more limited in Marriott. Marriott became the world's largest hotel group ranked by rooms in 2016. Marriott has launched creative ad campaigns such as campaigns focusing on user-generated content, online consumers, and younger travelers. For example, "Go beyond" campaign and "Golden Rule" campaign in 2017 have focused on human connections between guests and hotel employees. However, there seems to be a lack of strategic role of advertising within the organization. Therefore, the strategic role of advertising within the firm is suggested in this study. Results of this study also suggest that the long-run positive impacts are significant for Hilton's advertising through television and the Internet, not through print and outdoor. This is consistent with the previous findings suggesting TV advertising has a higher advertising elasticity that print advertising (Dekimpe & Hanssens, 2011) while inconsistent with findings suggesting print advertising has a higher long-term elasticity than TV advertising (Sethuraman et al., 2011).

Managerial Implications

From the practical perspective, findings of the current study provide several insights for hotel marketers and advertisers regarding advertising strategy and advertising media mix.

First, findings demonstrate the importance of advertising metrics in advertising research and practices. Marketing accountability is necessary for sustained organic growth (Pauwels, 2015). With the fierce competition in the hotel industry, advertising should move beyond short-term campaigns into more accountable advertising. Hilton provides an example of how the hotel uses an analytics-driven approach to make

advertising decisions. Hilton has received the 2016 ANA Genius Award for outstanding achievement in demonstrating marketing's impact on business outcomes through marketing analytics., Our results suggest that hotel companies should develop two categories of metrics to measure impacts of advertising activities. Advertisers should not only use metrics tied to revenue such as ADR, RevPAR, and occupancy but also develop brand-building metrics tied to advertising's impacts on brand awareness and brand engagement. In terms of information used in developing metrics, according to this study, hotel advertisers can use business results based on accounting and financial data. In addition, hotel advertisers can collaborate with Google, Facebook, and Twitter to develop measurement instruments based on big data.

The findings offer guidance for CMOs to achieve long-term advertising effectiveness by involving advertising strategy in the strategic plan of a hotel company. Hotel advertising should align with the company overall direction and other departments' strategies in order to stay relevant in the long term. While persuasive advertising can directly affect purchase intention and generate sales, brand-related advertising is more effective because it communicates consistently the brand value. Marketers need to understand and work with the already established brand memories. This result supports the brand-centric view of advertising (Sharp, 2016). Another critical factor that could explain Hilton's long-term advertising effectiveness is its increasing advertising engagement with consumers. One challenge hotel advertising face is that hotels do not see their guests often. Consumers do not stay in hotels every week and tend to stay limited time in hotels during their trips. Interactive hotel advertisements allow hotels to remain engaged with their current and potential consumers. For example, Hilton's "Stay

Hilton. Go Everywhere.” iAd campaign across Apple platforms connects guests’ hotel experience with their travel experience in different destinations. With the engagement of digital, mobile advertising let consumers interact with advertisements such as through Twitter, email, and downloadable wallpaper. Therefore, this study suggests the importance of engagement in hotel advertising. Hotel advertisers should engage consumers in participating in, interacting with, and even co-create hotel ads, which can increase the degree of how hotel ads resonate with consumers. This is consistent with the research and the service logic focusing on co-creation.

Findings are informative for allocating advertising spending across media. Hilton’s results show that traditional television advertising is still effective while new online advertising is increasingly important. Therefore, hotel advertisers should split their spending between non-digital and digital advertising. However, the budget allocated to print advertising (i.e. newspapers and magazines) could be reduced. To optimize advertising allocation, Chief Marketing Officers (CMOs) should understand the value relevance of advertising provided by different media and set the advertising budgets across different media channels from a forward-looking perspective. In addition, to achieve sustainable growth CMOs should also track evolving consumer trends related to media use and the influence on advertising and integrate new forms of Internet advertising to the traditional media budgets.

Theoretical Implications

This study extends the hospitality literature on advertising effectiveness in several ways. First, by incorporating all the performance and marketing variables as endogenous, the current study has recognized multiple channels of effects between variables including

carryover effects, purchase-reinforcement, feedback effects, firm-specific decision rules, and contemporaneous effects (Hanssens, Parsons, & Schultz, 2001). The multichannel framework contributes to the accountability of advertising spending in the hospitality industry.

Second, based on the model, the pure effect of advertising on firm market value can be separated from the multiple channels in order to investigate the intangible branding process. Investments in advertising bring both tangible and intangible outcomes to firms. This study separates the brand valuation process from tangible sales effect, suggesting that Hilton's advertising has the brand-building value, relative to Marriott. This difference may be related to the consumer-generated advertising that Hilton incorporate into its marketing mix since 2014. With active interaction with the consumer, advertising can contribute to long-term relationship building and trustworthiness, leading to enhanced brand equity and the growth in firm value.

Third, this study explores ad's long-term impact by media. As media environments drive the evolvement of advertising, this study explores how advertising effectiveness varies by media. Advertisers, especially large firms such as Hilton and Marriott, should not follow their previous patterns of media spending. This study contributes to the media budget allocation practices by emphasizing brand building activities related to media spending. For example, recently Internet advertising spending has been increasing rapidly. From a branding perspective, Internet advertising should be used to engage with the audience actively. With new technologies and online platforms, Internet advertising can easily co-create value with consumers and build long-term relationships with consumers. Finally, this study employs monthly data to generate

results, which adds to the current hospitality literature that suffers from a large number of missing values of advertising yearly data.

Limitations and Further Research

One limitation of this study was that limited variables were considered in the model due to limited degrees of freedom. Future research could explore more complex time-series models to include other relevant variables in the time-series models, including endogenous variables such as profits, as well as exogenous variables such as the franchising information (Park & Jang, 2012). Another limitation of this study was that the sample was limited to the comparison of Hilton and Marriott. In order to increase the generalizability of the results, future research could be extended into multiple companies within the tourism and hospitality industry. Lastly, this study did not consider hotel classification in the model, instead, an overall examination was conducted. Based on the general evaluation of advertising effectiveness, future research could break down the hotel brands into luxury, upper upscale, upscale, upper midscale, midscale, economy, and independent based on Smith Travel Research's classification. For example, Hilton has luxury brands such as Conrad, upper-upscale brands such as Curio, upscale brands such as Doubletree, and upper-midscale brands such as Hampton Inn.

CHAPTER 4 ADVERTISING EXPENDITURES AND DEBT FINANCING IN THE HOSPITALITY AND TOURISM INDUSTRY

4.1 INTRODUCTION

A lack of marketing accountability increasingly pressures marketing managers to speak in the language of accounting and finance in order to better communicate their influence with senior members of management (Kraus, Håkansson, & Lind, 2015). This pressure is greatest for advertising due to its traditional focus on consumer-based metrics (Srivastava & Reibstein, 2005). Consequently, there is a need for research to investigate the multifaceted role of advertising expenditures in the financial market. While emerging literature has examined advertising impact on firm performance outcomes (Joshi & Hanssens, 2010) and equity financing (Chemmanur & Yan, 2009; McAlister, Srinivasan, & Kim, 2007), there is a lack of research on advertising impact on debt financing. Therefore, this study aims to investigate the advertising impact on the firm's debt levels, beyond its effects on firm performance and equity financing.

The hospitality and tourism firms rely heavily on advertising to create intangible assets and thus enhance and sustain shareholder value (Qi, et al., 2018). Despite increased interest in bridging marketing with finance (Jang, Tang, Park, & Hsu, 2013), little research has focused on the effect of advertising on debt levels (a measure of firm's economic sustainability) (Falk & Steiger, 2018). Therefore, there is a need for future research on assessing and managing marketing-induced risk (Hanssens & Pauwels, 2016). The hospitality and tourism industry is capital intensive and is dependent on heavy

debt financing (Kim, Kim, & Woods, 2011), particularly of long-term debt (Seo, Kim, & Sharma, 2017). Within the context of current hospitality and tourism financings, lenders are gradually becoming more conservative and interest rates are projected to rise since 2016, although there is still solid liquidity (JLL's Hotels & Hospitality Group, 2016; Marcus & Millichap, 2017). Understanding factors that affect debt levels is important for better corporate financing decisions and better lending decisions in the hospitality and tourism industry.

Furthermore, existing empirical capital structure studies have documented the effect of growth opportunities on long-term debt in hospitality and tourism firms. The results are mixed. Several studies have found that hospitality and tourism firms with more growth opportunities use less long-term debt (Dalbor & Upneja, 2002; Seo, et al., 2017). However, a positive relationship between growth opportunities and long-term debt has also been reported in the lodging and restaurant industries (Dalbor & Upneja, 2004; Li & Singal, 2019; Tang & Jang, 2007). One explanation for the mixed findings is that growth opportunities are not homogeneous, which include tangible investments (i.e. expansion, renovation, and acquisition of fixed assets) and intangible investments (i.e. advertising and research and development expenditures) (Gaver & Gaver, 1993). For hospitality and tourism firms, growth opportunities involve a significant amount of investment in fixed assets, with which lenders are more comfortable with, suggesting a positive association between growth opportunities and long-term debt (Dalbor & Upneja, 2004; Tang & Jang, 2007). However, the impact of the firm's intangible investment on debt financing has been overlooked. Therefore, this research aims to fill the research gap by focusing on

how hospitality and tourism firm's intangible investment through advertising affects corporate debt financing decisions.

This study attempts to provide several contributions. First, this study contributes to the marketing-finance interface literature by investigating the role of advertising on long-term debt in the hospitality and tourism industry. In addition, this study suggests an alternative measure of hospitality and tourism firm's growth opportunities as the advertising expenditures. This growth measure accounts for the capital-intensive nature of the hospitality and tourism industry and focuses on the intangible form of firm's growth options.

4.2 LITERATURE REVIEW

Advertising as a discretionary investment

Agency costs arise from stockholder-bondholder conflicts (Balakrishnan & Fox, 1993). Draw on the agency theory (Myers, 1977), there are some positive net present value projects that the stockholders tend to give up when a firm is partially debt-financed. This underinvestment problem is caused by the fact that the projects' payoffs are going to the bondholders. Therefore, the loss in firm value due to suboptimal investments lead to the agency costs of debt. The costs associated with the agency problem increase with firms' growth opportunities (Titman & Wessels, 1988). Specifically, when firms have more flexibility in future investments, the agency costs of debt increase. In order to minimize the conflicts, the greater the firm's investments in such assets the less it would be debt-financed, indicating a negative influence of growth opportunities - measured by market value of assets over book value of assets - on debt financing (Billett, King, & Mauer, 2007; De Jong, Kabir, & Nguyen, 2008).

The nature of advertising expenditure is considered as a discretionary investment. Discretionary investments are the investments in future growth opportunities and are options that firm may or may not exercise. Different from assets already in place, discretionary investments can be viewed as a call option on a real asset, and its price is the future investment needed to acquire the asset. According to a theory of the corporate borrowing decisions proposed by Myers (1977), the optimal amount of debt is negatively related to the percentage of discretionary expenditures in the total asset. The amount of debt supported by discretionary investments will be substantially less than is supported by assets already in place.

In addition, advertising is an intangible investment, which is closely associated with the discretionary investment. The unobservable nature of that kind of growth opportunities makes it hard for potential bondholders to estimate and monitor the effectiveness of debt and control agency costs of debt (Long & Malitz, 1985). Using data from manufacturing firms, they conclude that firms with a high proportion of advertising investments opportunities can support less level of debt than firms with more tangible investments opportunities. In addition, intangible assets or growth opportunities have a higher variance of the market value and don’t have active secondary markets (Myers, 1984). Therefore, firms holding more intangible assets or growth opportunities have a higher risk of default and are more likely to lose value in financial distress. Therefore, the type of firm's investment opportunities can affect financial leverage. Specifically, a firm's advertising expenditures choice can reduce the firm's debt capacity.

Advertising as a firm-specific investment

Firm-specific investments and assets, such as advertising and research and development expenditures, are the primary sources of firms' uniqueness and competitive advantage (Rumelt, 1991). Draw on the transaction costs framework (Williamson, 1988), firms' ability to borrow is negatively affected by firm-specific assets. Specifically, firm-specific assets cannot be readily redeployed to other uses and cannot be used as collateral, leading to poor security to lenders (Titman & Wessels, 1988). Due to informational asymmetry, these assets suffer high costs in the event of bankruptcy and liquidation (Balakrishnan & Fox, 1993), suggesting a negative relationship between advertising expenditures and debt financing.

Advertising as a signal

Advertising can serve as a signal to convey information to the financial markets beyond the product market (Chemmanur & Yan, 2009). In the debt market, advertising by small firms catches lenders' limited attention and thus increases firms' opportunities to access debt financing (Ding, Jia, Wu, & Yuan, 2017). However, Ding et al. (2017) show that no such positive effect exists for large firms because large firms tend to be more recognizable to lenders. Through advertising, a discretionary spending, firms can communicate with stakeholders (including lenders) about their financial status (Mizik & Jacobson, 2007). The signaling effect of advertising in debt market calls for further research.

In sum, previous capital structure theories and related studies generally support a negative relationship between advertising expenditures and financial leverage. In the context of hospitality and tourism, for small and medium-sized hotels, trade-off theory is

more applicable to the long-term debt decisions than short-term debt decisions (Nunes & Serrasqueiro, 2017). However, the relationship between growth opportunities and debt levels varies across countries and industries (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Chen, 2004). One reason may be the asset structure varied across industries and across countries (i.e. tangible versus intangible assets and advertising versus R&D investments) (Chui, Lloyd, & Kwok, 2002; Rajan & Zingales, 1995). Therefore, different underlying mechanisms (trade-off or pecking-order theory) may be applied to different growth options. Hospitality and tourism firms' growth includes both tangible-real estate-type of investments as well as intangible advertising investments. The hospitality and tourism industry is a marketing-oriented industry, and advertising expenditures are significant investments for this industry. Given the importance of advertising in hospitality and tourism firms, this study aims to disentangle the advertising investment from growth opportunities and focus on advertising impact on debt financing. As a result, this study hypothesizes that advertising expenditures are negatively related to financial leverage in the hospitality and tourism industry.

4.3 METHODOLOGY

Financial data of public companies, from 2001 to 2016, within the tourism and hospitality industry in the United States was retrieved from the Compustat database. Based on the number of firms in this database, three sub-sectors statistically represented US tourism and hospitality industry, including airlines, restaurants, and hotels. As a result, financial data of 276 firms across 16 years were collected. Longitudinal analysis was employed. Specifically, a marginal model was used in this study (see model 1).

$$LEVERAGE_{kit} = Intercept + \beta_0 * YEAR_t + \beta_1 * AD_{kit} + \beta_2 * CAP_{kit} + \beta_3 * PROF_{kit} + \beta_4 * TANG_{kit} + \beta_5 * ASSET_{kit} + \beta_6 * SIC_k + e_{kit} \quad (1)$$

Financial leverage was measured by the ratio of debt to assets. Specifically, the book value of long-term debt was used as nominator because short-term debt is retired prior to investment decisions (Myers, 1977). The market value of assets was used as denominator because the market measure is forward-looking (Frank & Goyal, 2009). Advertising expenditures were sized by book assets to scale firm size (Long & Malitz, 1985). Control variables included capital expenditures (capital expenditures/book assets), profitability (operating income before depreciation/book assets), tangibility (net property, plant, and equipment/book assets), firm size (log of assets), sub-sector category (SIC code), and year (dummy variables) (Frank & Goyal, 2009; Long & Malitz, 1985).

4.4 RESULTS

Data were screened and outliers were identified based on scatter plots of individual variables and Cook's D. In addition, the list-wise deletion was used to deal with missing data. As a result, 252 firms with 16-year data remained in the sample.

With the cleaned data, a marginal model was employed. Based on the comparison of AIC among different models, the model using unstructured correlation matrix assumption was selected. Based on the Type 3 test of the selected model, YEAR, PROF, TANG, ASSET, AD were statistically significant at the 0.05 significance level. CAP and SIC were not statistically significant, but they remained in the model as control variables.

Table 4.1 illustrates the coefficient estimates obtained. Year was significant across 16 years except for 2014 and 2015. Profitability had a significant negative

influence on financial leverage (β=-0.3942, p<0.0001). Tangibility and asset had a significant positive influence on financial leverage (β=0.155, p=0.0005; β=0.02831, p=0.0006 respectively). Advertising intensity negatively affected financial leverage (β=-0.9613, p=0.0057).

Table 4.1 Coefficient estimates

Effect	year	sic	Estimate	Standard Error	Pr > |t|
Intercept			0.1579	0.07588	0.0384
year	2001		0.1823	0.03523	<.0001
year	2002		0.1944	0.03607	<.0001
year	2003		0.1563	0.03453	<.0001
year	2004		0.1214	0.03491	0.0006
year	2005		0.1147	0.03427	0.0009
year	2006		0.05848	0.02869	0.0426
year	2007		0.119	0.02748	<.0001
year	2008		0.1886	0.03633	<.0001
year	2009		0.1782	0.03305	<.0001
year	2010		0.1413	0.03262	<.0001
year	2011		0.2086	0.03522	<.0001
year	2012		0.1356	0.03349	<.0001
year	2013		0.07325	0.0331	0.0278
year	2014		0.01962	0.02109	0.3531
year	2015		-0.00126	0.01205	0.9171
year	2016		0	.	.
PROF			-0.3942	0.06802	<.0001
TANG			0.155	0.04362	0.0005
ASSET			0.02831	0.008187	0.0006
AD			-0.9613	0.3449	0.0057
CAP			-0.1091	0.06627	0.1009
SIC		4512	-0.01303	0.05453	0.8114
SIC		5812	-0.03108	0.04531	0.4934
SIC		7011	0	.	.

4.5 CONCLUSIONS

Based on the results, the hypothesized negative relationship between advertising expenditures and financial leverage in the hospitality and tourism industry was supported. Hospitality and tourism firms with more advertising investments use less long-term debt. In addition, the results of this study provide other critical factors behind financial leverage choices in the hospitality and tourism industry. Overall, firms' debt financing can be increased for firms with (1) larger firm size, and (2) more tangible assets, (3) less advertising investments, and (4) less profitability.

Theoretical Implications

This study contributes to previous literature in a few ways:

First, this study extends the capital structure literature in the hospitality and tourism industry by investigating the effect of advertising expenditures on long-term debt levels. Previous studies have concluded fixed assets and growth opportunities significantly determine the capital structure of hospitality firms (Dalbor & Upneja, 2002, 2004; Tang & Jang, 2007). However, the inconsistent results about the relationship between capital structure and growth opportunities indicate the need for further investigation. Appropriate proxies of growth opportunities are in need of the tourism and hospitality industry besides the overall market-to-book ratio used in past studies. The power of intangible investments in brand equity is suggested to be considered for hospitality growth opportunities (Tsai, Pan, & Lee, 2011). After conducting financial leverage study in the hospitality industry, intangible investment factor measured by advertising and research and development expenses was recommended as a future research direction (Kizildag, 2015). This study fills the research gap by investigating the

effect of advertising expenditures on financial leverage in the hospitality and tourism industry. Results show that advertising expenditures reduce firms' debt levels, which is consistent with the agency theory by Myers (1977).

Second, this study also extends the marketing-finance interface literature by investigating the effect of advertising in the debt market. The current study is among the first to apply the agency theory by Myers (1977) to the advertising-debt financing interface with the context of hospitality and tourism. Previous studies have documented how advertising influences firm performance outcomes and equity financing such as the systematic risk of the firm's stock (Chemmanur & Yan, 2009; Joshi & Hanssens, 2010; McAlister et al., 2007). This study bridges the firm's product market advertising and its corporate financing decisions in the debt market, which complements the existing advertising-effect literature in hospitality and tourism. This study contributes to the literature by demonstrating the cost of advertising expenditures from a forward-looking perspective. Advertising, as a discretionary and firm-specific investment, could bring costs associated with debt financing.

Third, this study provides a better understanding of the nature of growth opportunities influencing hospitality and tourism lending decisions. This study extends the current literature on measuring growth opportunities by accounting for an important angle - growth opportunities are not homogeneous (Gaver & Gaver, 1993). Hospitality and tourism firms' growth consists of both tangible-real estate-type of investments as well as intangible investments. Instead of using market-to-book ratios as an overall measure of growth opportunities, advertising expenditures are found to be a detailed proxy of one type of intangible growth opportunities for the hospitality and tourism firms.

Results of this study show that advertising-related growth opportunities negatively influence firms' debt financing in the hospitality and tourism industry.

Lastly, this study also provides empirical supports on conventional capital structure theories in the hospitality and tourism industry, including the trade-off theory through tangibility, firm size, and growth opportunities, as well as pecking order theory through profitability. Consistent with the trade-off theory (Scott, 1977), results of the current study show that tangibility and firm size increase debt financing while growth opportunities decrease debt financing. Consistent with the pecking order theory (Myers, 1984), the results of this study show that profitability has a negative influence on debt financing. Although different theories may suggest different directions of these relationships, results of this study conform to the reliable patterns in previous literature (Frank & Goyal, 2009), especially for the bankruptcy cost variables including tangibility and firm size and the pecking order variables including profitability.

Managerial Implications

This study has implications in the areas of marketing and finance. First, this study links product-market activities with capital-market decisions by recognizing the negative impact of marketing decisions on financial leverage. Therefore, hospitality and tourism firms should balance the trade-off between firms' intangible investment decisions and debt financing. Second, from a financial perspective, this study shows that the choice of debt level is negatively affected by advertising expenditures. Hospitality and tourism CFOs should be aware of the debt-related agency problems and manage and control the agency costs of debt for advertising growth opportunities. For example, covenants protection can be used to mitigate these agency costs (Billett et al., 2007). Firms could

also use relatively more equity to finance new projects with high intangible growth opportunities. Third, from the marketing perspective, this study shows that advertising is firms' future growth opportunities and is critical to firms' uniqueness of products or services. Hospitality and tourism CMOs should be involved in the firms' strategic management. When making advertising budgeting, CMOs should be aware of the value as well as the costs generated by advertising investments to the product market and the financial market. To finally enhance and sustain shareholder value, CMOs should work with CFOs on advertising spending decisions.

Limitations and Further Research

There are several limitations of this study which calls for future research. First, this study has not found a positive signaling effect of advertising on firms' debt financing in hospitality and tourism context. One possible explanation may be that the sample of this study is limited to public traded firms, which are large firms with more recognition. The signaling effect of advertising in the lending market may be different between small and large firms, as suggested by prior research (Ding et al., 2017). Future research could focus on advertising's role in small business debt financing and further extend the multiple associations between firms' finance decisions and product market activities within the context of hospitality and tourism. Second, advertising is only one type of firm-specific intangible investments in hospitality and tourism firms. Future research could focus on firms' investments in human capital, which are also firm-specific and intangible factors that may influence financial leverage. Lastly, this study has not found a significant effect of capital expenditures on firms' debt financing, which calls for further investigation.

CHAPTER 5 GENERAL CONCLUSION

This dissertation has examined the long-run impacts of advertising expenditures in the tourism and hospitality industry from three perspectives. First, the total effect of advertising expenditures on firm market value was examined by comparing it with the effects of total assets and total expenses on firm value. Results show that tourism and hospitality advertising have a strategic value on the firm, and there is no significant difference regarding advertising effectiveness across sub-sectors. Based on the overall value assessment, the long-run advertising impacts were examined by comparing Hilton and Marriott. Results suggest that Hilton's advertising has a long-run impact, especially through television and Internet media channel. Furthermore, the costs associated with advertising in the debt market were estimated. Results indicate that advertising has a negative impact on firms' debt capacity.

This dissertation contributes to the advertising accountability literature in several ways. First, while advertising has been suffering from small effects compared to other marketing mix and limited influences within firms, advertising practices have changed radically over time with new technologies and new media. This dissertation measures the advertising effectiveness focusing on the long-term and intangible perspective, providing empirical support for the strategic role of advertising in the current tourism and hospitality industry. Second, this dissertation contributes to the industry-specific understanding of when and how advertising works. Within the context of tourism and hospitality, this dissertation measures advertising effectiveness across media and

investigate the sleeper effect of advertising as well as the cost of advertising on financial leverage. Finally, this dissertation adds value to advertising effectiveness methodology by applying the longitudinal model and the time-series model on yearly and monthly data.

This dissertation also provides empirical supports for CMOs to optimize strategic advertising budget allocations over time and across media. The findings also enrich hotel marketers' understanding of the long-term advertising effects and the timing of lagged effects as well as the advertising-induced risk. Furthermore, the findings also suggest that advertising should be integrated with other marketing mix elements and get a broader scope within the organization. This is consistent with previous studies suggesting that branding strategy can be integrated with human resource and information technology strategy to achieve the best value (Tavitiyaman et al., 2012). Future research could explore how advertising interacts with other marketing mix variables and other departments to jointly bring value to the firm.

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