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การเปรียบเทียบบทบาทของค่าโฆษณาแบบดั้งเดิมและค่าโฆษณาแบบดิจิทัลในการสร้างมูลค่าธุรกิจ

Comparing the role of traditional and digital advertising expenses in generating firm value

ขวัญฉัตร วงศ์จันทร์ทิพย์ [1]

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บทคัดย่อ

งานวิจัยนี้มีวัตถุประสงค์เพื่อเปรียบเทียบผลของค่าโฆษณาแบบดั้งเดิม และค่าโฆษณาแบบดิจิทัลในการสร้างมูลค่าให้แก่ธุรกิจ ผู้วิจัยยังได้มีการนำปัจจัยที่อาจมีผลต่อความสัมพันธ์ระหว่างค่าโฆษณาที่มีผลต่อมูลค่าธุรกิจอันได้แก่ ความพึงพอใจของลูกค้า มาเป็นตัวแปรกำกับด้วย กลุ่มตัวอย่างที่ใช้ในการวิจัยครั้งนี้ประกอบด้วย บริษัทมหาชนในประเทศสหรัฐอเมริกา จำนวน 67 บริษัท ตั้งแต่ปี พ.ศ. 2555 ถึง 2559 โดยมีทั้งหมด 332 ตัวอย่างที่ใช้ในการวิเคราะห์ ระเบียบวิธีวิจัยใช้การวิเคราะห์สถิติเชิงพรรณนา สถิติเชิงอนุมาน และการวิเคราะห์การถดถอยพหุคุณ ที่ระดับนัยสำคัญทางสถิติ 0.05

ผลการศึกษาพบว่าทั้งค่าโฆษณาแบบดั้งเดิมและค่าโฆษณาแบบดิจิทัล มีผลเชิงบวกและเกี่ยวข้องโดยตรงในการสร้างมูลค่าธุรกิจ การศึกษายังพบว่าค่าโฆษณาแบบดิจิทัลไม่ได้มีผลต่อมูลค่าธุรกิจมากไปกว่าค่าโฆษณาแบบดั้งเดิม ผลการศึกษานี้ยังบ่งชี้ว่าความพึงพอใจของลูกค้ามีผลเชิงบวกต่อความสัมพันธ์ระหว่างค่าโฆษณาทั้งแบบดั้งเดิมและแบบดิจิทัลที่มีผลต่อมูลค่าธุรกิจ

กิจการสามารถใช้การโฆษณาเป็นปัจจัยหนึ่งสำหรับการเพิ่มมูลค่าให้แก่ธุรกิจ แม้ว่าปัจจุบันหลายกิจการจะหันมามุ่งเน้นการโฆษณาผ่านสื่อดิจิทัล แต่ยังมีกลุ่มคนอีกจำนวนมากที่ยังให้ความสำคัญต่อสื่อแบบดั้งเดิมอยู่ ดังนั้นกิจการจึงควรตัดสินในการลงทุนอย่างเหมาะสมต่อการโฆษณาทั้งแบบดั้งเดิมและแบบดิจิทอลเพื่อให้ส่งผลดีที่สุดต่อธุรกิจ

คำสำคัญ: ค่าโฆษณา, ค่าโฆษณาแบบดั้งเดิม, ค่าโฆษณาแบบดิจิทัล, มูลค่าธุรกิจ, ความพึงพอใจของลูกค้า

[1]ดร.ขวัญฉัตร วงศ์จันทร์ทิพย์ อาจารย์ สาขาวิชาการบัญชี คณะวิทยาการจัดการ มหาวิทยาลัยราชภัฏสวนสุนันทา

อีเมลล์: khwanchat.wo@ssru.ac.th

Comparing the role of traditional and digital advertising expenses in generating firm value

Khwanchat Wongjantip[1]

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Abstract

The primary objective of this research was to examine the effects of both traditional and digital advertising expenses on a firm's ability to generate value. The researcher also investigated the influence of customer satisfaction on the associations that both traditional and digital advertising expenses have with firm value. The data set comprised the advertising expenses of 67 public companies in United States from 2012 through 2016. There were 332 firm-year observations in the data set. The research procedures analysis was the descriptive statistics, the inferential statistics, and multiple regression analysis with the significance level of 0.05.

This study's results showed that both traditional and digital advertising expenses were positively and significantly associated with firm value. In addition, digital advertising did not contribute to a firm's value more than traditional advertising does. This study's findings also indicated that customer satisfaction moderated the associations that both traditional and digital advertising expenses have with firm value.

Businesses can use advertising as one of the factors for contributing firm value. Many businesses currently focus on digital media advertising; however, a large number of people still emphasize on traditional media. Management needs to decide how to balance investments in digital and traditional advertising media to work best for the business.

Keywords: Advertising Expenses, Traditional Advertising Expenses, Digital Advertising Expenses, Firm Value, Customer Satisfaction

[1]Dr., Lecturer of Accountancy, Faculty of Management Science, Suan Sunandha Rajabhat University
Email: khwanchat.wo@ssru.ac.th

Introduction

Advertising promotes products, services, and brands for businesses. Many individuals have asked why corporations promote so much. The purpose of advertising is to help businesses persuade consumers to buy goods and services. Advertising helps customers distinguish between a company's goods and rivals'. Advertising in almost any form of media—whether traditional or digital—might satisfy a company's marketing and communication needs. Traditional media include newspapers, radio, TV, billboards, and magazines. Since Facebook's 2004 introduction, digital media which includes social media, search engines, message boards, forums, and blogs has become more important. Firms use advertising to acquire new consumers, tell current ones about new products or services, promote their brands, and encourage repurchases. As a result, firms expect to increase customer satisfaction, loyalty, financial performance, and value.

After the Web was commercialized in 1995, digital-media platforms emerged. Mobile technology has accelerated the expansion of digital advertising, which today plays a major role in promoting products and services. Digital media allows companies to engage with people and accomplish different goals. In 2017, digital advertising revenue reached $88 billion, $15.5 billion (21%) more than in 2016 (iab, 2018). Videos, banners, and other forms drove growth (including classified ads, lead generation, and audio ads). Market value is a financial metric. Stock returns, market-to-book ratio, and Tobin's q may estimate business value. Each strategy offers businesses, investors, and managers benefits and drawbacks. Tobin's q is used to assess whether advertising increases a firm's worth (Ishaq & Ghouse, 2021; Rolle et al., 2020).

Researchers studied the impacts of advertising expenditure on short-term (sales revenues and profits) and long-term (firm value) metrics and found positive effects on revenues, profits, and firm value (Corte-Real et al., 2020; Joshi & Hanssens, 2010; Thompkins, 2018). Other researchers have shown a positive relationship between advertising and business valuation (Chauvin & Hirschey, 1993; Kim & Joo, 2013). However, some studies revealed a negative effect of advertising spending (Erickson & Jacobson, 1992; McAlister et al., 2007). The results of this research confirm those past study and extends the research in traditional and digital advertising's influence on firm value.

Objectives

This research examined the effect of traditional and digital advertising expenses on firm value. This research also explored customer satisfaction as moderator variable. Previous studies suggested that customer satisfaction might influence the relationship between advertising expenses and firm value. O'Sullivan and McCallig (2012) found a positive relationship between customer satisfaction and earnings (i.e., firm value). Customer satisfaction also increases profits (Madhani, 2019; Niedermeier et al., 2019). This research examined the roles traditional and digital advertising play in generating firm value using accounting, finance, and marketing ideas. This is one of the few studies that examine the effect of traditional and digital advertising on firm value. This is the first study on the effect that certain customer satisfaction has on the association between both traditional and digital advertising expenses and firm value.

Literature Review

Media Consumption

Companies use advertising to promote their products, services, and brands. Such advertisements can use two main media forms: traditional and digital advertising. The traditional approach uses non-digital media, such as newspapers, magazines, radio, TV, and billboards. Digital advertising; however, takes place online. Digital media includes display advertisements, blogs, and social-media platform such as Facebook, Twitter, and Youtube (Keller, 2013; Kingsbury et al., 2021). Each advertising approach offers several ad styles and positioning possibilities that organizations can utilize to attract potential customers' and sell products. Both types of advertising may boost market size, brand image, brand equity, sales, and consumer education. Traditional advertising and digital advertising vary greatly. Traditional advertising may not reach the desired target customers because such advertising generally entails one-way communication with customers. On the other hand, digital advertising reaches a well-defined target group and allows two-way communication between a firm and its prospects and consumers. Digital advertising is typically cheaper than traditional advertising (Lee & Cho, 2019; Voorveld, 2019).

Advertising Expenses

The American Institute of Certified Public Accountants (AICPA) mandates businesses to include advertising expenses in their annual financial statements and to explain them in notes of financial statement. The AICPA helped create generally accepted accounting principles in the U.S. and sets standards for certified public accountants (CPA). The AICPA defines advertising as "promoting an industry, an entity, a brand, a product name, or particular items or services to establish or promote a favorable entity image or a desire to acquire the entity's products or services" (American Institute of Certified Public Accountants, 1993). Statement of Position 93-7 refers to advertising's use of "a form such as mail, TV, radio, phone, fax machine, newspaper, magazine, coupon or billboard" (American Institute of Certified Public Accountants, 2012).

Both public and private U.S. corporations must file tax returns and pay income taxes. Private corporations, unlike public companies, are not obligated to publish financial information. This research focuses mainly on public companies that have reported their advertising expenses in income statements. The challenge is that companies are not required to differentiate between traditional and digital advertising expense on their income statements. Therefore, the researcher used the Ad Age database because it shows top companies' advertising costs, both overall and by media channel. Ad Age analyzed ad spending based on financial filings, company reports, and industry benchmarks (Ad Age, 2018). Ad Age also reported the firms' advertising spending across 21 forms of media, as tracked by Kantar Media, a major media-research company.

- TV has five sub-categories: broadcast, cable, Spanish-language, spot, and syndicated.
- Digital includes two sub-categories: Internet display and paid search.
- Magazines include business-to-business, consumer, local, Spanish, and Sunday.
- Newspapers include free-standing inserts, local, national, and Spanish-language newspapers.

- Radio encompasses local, national spot, and network radio.
- Outdoor and cinema

According to Kantar Media, traditional media comprises TV, print magazines and newspapers, radio, outdoor media (billboards), and cinema; digital media includes Internet display advertisements and paid search ads. Internet display advertising excludes video and mobile ad forms. Paid search covers desktop and mobile product listing and text advertisements (Adiarsi, 2019).

Firm Value

Firm value can be defined as an economic measure reflecting a firm's market value (Hirdinis, 2019). According to Joshi and Hanssens (2010), firm value can be expressed in two values: as tangible and intangible assets. Tangible assets include sales revenues and profits. Intangible assets include brand equity and R&D costs add to a company's worth (Hirdinis, 2019). Intangible assets may be stronger indicators of future corporate success than historical accounting measurements; U.S. accounting principles do not require companies to declare intangible assets in their financial statements (Salvi et al., 2020). Investors and companies concern about firm value, especially stock prices. A firm's stock price rises as it gains credit, attracts investors, and establishes reputation and brand name (Triani & Tarmidi, 2019).

Several methods are available to measure firm value, including stock returns, market-to-book ratio, and Tobin's q. First, stock returns are dividends or gains from stock sales. Stock prices show investors' perception of a firm's potential to earn and future earnings. Second, market-to-book ratio is a company's market value divided by its book value. Market value is determined by the financial marketplace. Book value is the amount a firm would be worth if it liquidated its assets and paid off all its obligations. Market-to-book ratio might alter over time and at any moment. This ratio can be used to compare firms across industries. Finally, Tobin's q is the ratio of a business's market value to the cost of replacing its tangible assets (cash, inventories, securities, and property); if $q > 1$, a firm possesses intangible assets (Rust et al., 2004; Wong et al., 2021). Sridhar et al. (2016) claimed that Tobin's q captures a firm's value and its intangible asset impacts. Tobin's q compares businesses with different strategies such as company's growth and profits. Tobin's q is unaffected by accounting principles but adjusts for industry-specific performance idiosyncrasies.

Stock returns may be measured monthly or daily, while advertising costs are reported annually. This mismatch in timing shows that stock returns as part of time-series analysis cannot be used to assess firm value in this research. Market-to-book ratio ignores intangible assets such as brand equity and profits growth. Therefore, the researcher used Tobin's q to assess whether advertising may boost company value. Based on the study of McAlister et al. (2016) and Sridhar et al. (2016), the formula for Tobin's q is the following:

$$Tobin's\ q = \frac{Market\ value\ of\ equity + Preferred\ stock + Debt}{Total\ Assets}$$

where Market Value of Equity is the closing price of shares at the end of the fiscal year multiplied by the number of common shares outstanding, Preferred Stock is the liquidation value of the company's preferred stock, Debt is the company's total debt, and Total Assets is the book value of total assets.

Tobin's *q* ratio is used by marketing researchers to measure corporate value (Al-Slehat, 2020; Bayer et al., 2020; Chauvin & Hirschey, 1993; McAlister et al., 2016; O'Sullivan & McCallig, 2012; Sridhar et al., 2016). O'Sullivan and McCallig (2012) applied Tobin's *q* to investigate whether customer satisfaction moderates the relationship between earnings and firm value. O'Sullivan and McCallig discovered that customer satisfaction boosts firm value and moderates the earnings and firm value relationship. McAlister et al. (2016) studied the association between advertising effectiveness and firm value based on the firm's sources of competitive advantage: cost leadership or differentiation. Cost-leadership companies compete on price; differentiation firms compete on distinctiveness. McAlister et al. used Tobin's q to compare businesses' worth. Cost-leadership firms cannot utilize advertising to establish brand equity; however, differentiation strategy leads to increased sales and firm value.

Customer Satisfaction

Customer satisfaction measures how well a firm's products or services meet or surpass consumers' expectations. Firms are concerned with customer satisfaction because consumers spread word of mouth—both good and bad—to other consumers (Kotler & Keller, 2016). Customer satisfaction, product quality, and profit are closely connected. Customer satisfaction increases with product quality. Customer satisfaction can benefit businesses. These include customer loyalty, positive word-of-mouth, and product launches. Satisfied clients are more likely to repurchase and remain as customers of the company than unhappy ones. They are also more inclined to suggest products to friends and family. Satisfied customers look forward to new products from companies they like, which boosts sales and profits. Unsatisfied customers may spread negative word of mouth and move to rivals' products or services, reducing sales and revenue.

Researchers have found a positive relationship between customer satisfaction and firm value. Anderson et al. (2004) found a positive association between customer satisfaction and the growth of future cash flow. According to Gruca and Rego (2005), higher advertising intensity and market share both increased the positive association between consumer happiness and future cash flow growth. Grewal et al. (2010) studied how U.S. airline businesses' acquisition and retention expenditures, including advertising, affect customer satisfaction. Grewal et al. found that advertising boosts consumer satisfaction. Customer satisfaction positively affects firm value and moderates the relationship between earnings and firm value (O'Sullivan & McCallig, 2012).

Firms use customer-satisfaction data to predict future profitability, which affects values. When studying customer satisfaction and firm value, academics (e.g., Anderson et al., 2004; Gruca and Rego, 2005; O'Sullivan and McCallig, 2012) typically apply ACSI data. The ACSI measures U.S. consumers' satisfaction with companies' products and services. Researchers at the University of Michigan and ASCI associates have submitted ACSI data since 1994. ACSI scores range from 0 to 100, with 100 being the highest. An ACSI score includes three variables: (a) overall satisfaction with a goods or service, (b) how well it meets or exceeds expectations, and (c) a comparison to an ideal good or service in the same category. Fornell et al. (1996) outlined the ACSI's goal and important customer satisfaction results. Fomell et al. observed that companies with high ACSI ratings had better financial performance and stock returns. For most consumers, quality is more important than price when assessing

customer satisfaction and loyalty. Therefore, companies that focus on increasing quality are likely to have higher ACSI ratings than those that focus on lowering prices.

Advertising Expenses and Firm Value

Advertising is one method in which companies promoe their products and services, expand their markets, and increase their sales revenue and value. Many scholars have studied the effects that advertising expenses have on firm value. Chauvin and Hirschey (1993) compared advertising and R&D expenses (as independent factors) to common stock market value (as the dependent variable). According to their analysis, both manufacturing and non-manufacturing companies benefited from advertising and R&D spending. Graham and Kristina (2000) examined the asset value of advertising expenses for 320 firms across a 10-year period ending in 1994. Graham and Kristina's findings suggest that larger advertising spending are correlated with higher market values and future profits, particularly in the first four years following the expenditure. Grullon et al. (2006) studied the interactions between advertising, competitiveness, and capital structure. Advertising informs customers, enhancing company competitiveness. Increased advertising costs are correlated with higher sales and profits, which drive stock returns.

Joshi and Hanssens (2010) studied the effects of advertising expenditure on sales, earnings, and firm value. They found that advertising expenses improve all three indicators, both short- and long-term. Kim and McAlister (2011) analyzed stock market response to unanticipated marketing spending increases (including advertising). Kim and McAlister used yearly cumulative abnormal. The stock return model is based on the difference between the stock's 12-month return and the predicted rate. Kim and McAlister found that the stock market reacts favorably to unanticipated increases in advertising spending for firms that spend more than required to generate sales. They further claim that the positive coefficient for these enterprises is due to a persistence effect, in which advertising in one period leads to increased sales in subsequent periods (Kim and McAlister, 2011).

McAlister et al. (2016) studied the influence of advertising effectiveness on the firm value of cost-leadership and differentiation firms. Cost leadership and differentiation were used to generate the hypothesis. Cost-leadership corporations compete on price, but differentiation firms compete on distinctiveness. McAlister et al. used Tobin's q to compare firm value for both methods and found that distinctiveness may lead to increased sales and firm value. McAlister et al. insights have implications for whether advertising creates an asset or promotes sales. McAlister et al. proposed that differentiators capitalize advertising expenses while cost leaders should expense it.

Sridhar et al. (2016) studied the effect of national, regional, and online advertising on firm value. Sridhar et al. (2016) applied Tobin's q to assess firm value. Tobin's q considers a firm's projected long-term profitability and allows performance comparisons across companies and sectors. Sridhar et al. found that each advertisement type increased business performance but diminished the efficacy of the other two. A 1% increase in national advertising increase business performance by 0.14 percent, while it lowered regional advertising by 0.08 percent and online advertising by 0.43 percent.

Researchers have found a positive relationship between digital media and firm value. Thach et al. (2016) found that social-media advertising increases sales. Xun and Guo (2017)

studied the association between Twitter word-of-mouth and firm value. Xun and Guo found that electronic word-of-mouth is positively related to a company's stock returns. Ma and Du (2018) examined digital advertising expenses and firm value (using Tobin's *q*) of 1,538 enterprises from 2001 to 2012. Ma and Du found that digital media boosts company value most when digital advertising expenditure is minimal. When a corporation's digital-to-traditional-advertising expenditure ratio is beyond 15:1, allocating more resources to digital media negatively impacts firm value.

Although many researchers have identified a positive relationship between advertising expenses and firm value, some studies have shown a negative relationship. Erickson and Jacobson (1992) studied whether advertising and R&D spending may boost a firm's earnings. After controlling for profitability, Erickson and Jacobson found a negative association between stock returns and both advertising and R&D expenses.

Research Methodology

The researcher used secondary data to quantify the effect of advertising expenses on firm value. These research topics and theories supported this study. The following are this study's research questions:

1. Are advertising expenses positively associated with firm value?
2. Does investing in digital advertising contribute to firm value creation more than investing in traditional advertising?
3. How customer satisfaction moderates the relationship between advertising expenses and firm value?

Hypotheses

Advertising expenses

Several empirical researches have demonstrated that advertising expenses increase firm value (Chau & Hirchey, 1993; Graham & Kristina, 2000; Joshi & Hanssens, 2010). However, some researchers found a negative relationship between advertising expenses and firm value. Erickson and Jacobson (1992) discovered that stock returns negatively affect advertising and R&D spending after controlling for profitability. Advertising costs should increase firm value. Profitability was one of the control variables. Hypothesis 1 excludes moderating variable:

- H1: Firm value increases when advertising expenses increase.
  - H1 a: Firm value increases when traditional advertising expenses increase.
  - H1b: Firm value increases when digital advertising expenses increase.

Digital versus traditional advertising

Businesses and marketers would like to determine whether digital advertising contributes more value than traditional advertising. Digital media's share of advertising expenditure has increased while traditional media's share has significantly decreased. Digital advertising has continually grown at a higher rate than traditional advertising. Thus, digital advertising expenses should increase firm value more than traditional advertising expenses.

- H2: Digital advertising contributes to firm value more than traditional advertising.

Customer Satisfaction

Customer satisfaction affects firm value (Anderson et al., 2004; Gruca & Rego, 2005; O'Sullivan & McCallig, 2012). O'Sullivan and McCallig (2012) showed that customer satisfaction moderates the relationship between firm's earnings and its value. Thus, customer satisfaction should have a positive effect on the relationship between firm value and both traditional and digital advertising expenses.

- H3: The association between traditional advertising expenses and firm value becomes stronger as customer satisfaction increases.
- H4: The association between digital advertising expenses and firm value becomes stronger as customer satisfaction increases.

Sampling and data collection

This research's sample consisted of 67 firms with advertising expenses available on the Ad Age (2018) for all 5 years from 2012 to 2016. The selected firms were public companies in United States, so their stock prices were available. There were 332 firm-year observations in the data set.

Advertising expenses. The Ad Age database shows firms' overall advertising expenditure and channel spending (e.g., magazines, newspapers, television, and the Internet). Ad Age, which uses measurements from Kantar Media data, provided the sample firms' traditional and digital advertising expenses. For this research, the researcher applied a definition from previous studies: the ratio of total advertising costs to total assets (Chauvin & Hirschey, 1993; Joshi & Hanssens, 2010; Luo & De Jong, 2012). Thus, *traditional advertising expenses* is the ratio of traditional advertising expenses to total assets, while *digital advertising expenses* is the ratio of digital advertising expenses to total assets.

Customer satisfaction. ACSI provided consumer satisfaction statistics. This research included all firms with ACSI and Ad Age data from 2012 to 2016. The sample comprised ACSI data for 49 firms (240 firm-year observations) with customer-satisfaction ratings.

Financial leverage. *Financial leverage*—a firm's long-term debt divided by its total assets—is a control variable. Long-term debt and total assets were from COMPUSTAT (2018).

Firm size. *Firm size* is defined as the natural logarithm of a firm's market value. To calculate each firm's market value, the researcher multiplied each firm's closing share price at the end of each fiscal year by its common share outstanding to get its market worth. The researcher used this measure as a control variable. COMPUSTAT (2018) provided the closing prices and number of common shares outstanding for each fiscal year.

Profitability. *Profitability* is a firm's operating income/total assets ratio. The researcher used this as third control variable. Profitability has been a control variable in earlier studies (Erickson & Jacobson, 1992; Luo & de Jong, 2012). COMPUSTAT (2018) offered total assets and operational income.

Firm value (Tobin's *q*). The researcher utilized COMPUSTAT (2018) data for each firm's closing prices at the end of each fiscal year, number of common shares outstanding, debt and preferred stock values, total debt, and book value of total assets. From these data, the researcher calculated Tobin's *q* as a measure of firm value.

Data analysis

Akyiiz and Berberoglu (2016) and Assaf, et al. (2017) tested hypotheses using multiple regression. Both studies explored the moderator variable's effect on the association between advertising expenses and company performance and value. Thus, the researcher applied multiple regression to analyze the effects of moderating variable—customer satisfaction—on the relationship between advertising expenses and firm value. According to statistical practice, the researcher used mean-centering to reduced multicollinearity, especially between the moderating impact and its primary effects. The researcher also applied time-fixed effects to account for 2012–2016 company valuation and advertising expenditure fluctuations. The researcher used IBM SPSS Statistics to test the hypotheses. The Pearson product-moment correlation coefficient measured the strength of a linear association between the independent variable, advertising expenses, and the dependent variable, firm values as indicated by Tobin's *q*. The researcher applied three control variables (financial leverage, profitability, and firm size). These variables have been used by accounting and marketing academics (Barron et al., 2002; Barth et al., 2001).

Research Findings

To test the hypotheses, the researcher initially obtained data from Ad Age and COMPUSTAT on traditional and digital advertising expenses and firms' annual sales. The researcher then calculated Tobin's *q* as follows.

$$\text{Tobin's } q = \frac{Market\ Value\ of\ Equity + Preferred\ Stock + Debt}{Total\ Assets}$$

Table 1 shows major variable descriptive statistics for the 67-firm sample. Each company spent 1.61% of its assets on advertising, 1.26% on traditional advertising and 0.35% on digital advertising. The firms' average customer-satisfaction score was 76.85 out of 100.

Hypothesis 1 examined whether advertising expenses increase firm value. Table 2 shows the Pearson product-moment correlation coefficient for total, traditional, and digital advertising expenses, and firm value without moderating effect. These Pearson correlation data showed that total, traditional, and digital advertising expenses were positively correlated with Tobin's *q*—at .266, .349, and .124, respectively ($p < .01$). Therefore, total, traditional, and digital advertising expenses were found to be strongly correlated with firm value. Table 3 presents the association between advertising expenses and firm value without moderating variable. The researcher used multiple regression to investigate the relationship between advertising expenses and firm value. Models 1, 2, and 3 in Table 3 shows significant positive relationship between firm value and total, traditional, and digital advertising expenses, (total: $p < .05$, $R^2 = .330$; traditional: $p < .01$, $R^2 = .424$; digital: $p < .01$, $R^2 = .267$). According to *R-squared*, the results showed that traditional advertising expenses is better than digital media advertising expenses in generating firm value. Results supported Hypothesis 1, 1a, and 1b.

Table 1

Descriptive Statistics

	Observations	Minimum	Maximum	Mean	Median	Standard Deviation	25th Percentile	75th Percentile
Traditional Advertising Expenses	332	0.0001	0.1486	0.0126	0.0073	0.0162	0.0033	0.0163
Digital Advertising Expenses	332	0.0000	0.5443	0.0035	0.0007	0.0303	0.0003	0.0014
Total Advertising Expenses	332	0.0001	0.5687	0.0161	0.0086	0.0353	0.0038	0.0176
Tobin's *q*	332	0.8755	6.1366	1.9960	1.7642	0.9955	1.2021	2.4868
Customer Satisfaction	239	51	87	76.85	78	6.215	74	81
Firm Size (in millions)	332	746.86	626,550.35	109,245.99	68,955.88	111,139.69	28,026.14	164,049.06
Profitability	332	-0.1211	4.7982	0.1595	0.1343	0.3103	0.0787	0.1758
Financial Leverage	332	0.0000	23.0582	0.3458	0.2101	1.3766	0.1290	0.3260
Total Assets (in millions)	332	$3,805.83	$2,573,126.00	$214,838.80	$73,508.62	$473,052.54	$27,683.21	$158,873.00
Long-term Debt (in millions)	332	$0	$271,245.00	$32,060.03	$14,590.00	$49,456.26	$5,789.55	$31,208.50
Common Shares Outstanding	332	78.38	10,778.26	1,920.55	1,215.83	2,005.20	487.00	2,668.07
Price Close - Annual – Fiscal	332	$3.48	$1,120.71	$78.55	$55.02	$118.46	$36.14	$76.90
Total Common/Ordinary Equity	332	$(5,656.00)	$283,001.00	$42,995.46	$19,384.71	$57,239.04	$6,459.20	$57,563.99
Total Sales (in millions)	332	$2,800.93	$483,521.00	$65,223.83	$42,257.50	$71,819.14	$19,701.38	$87,664.50

This table displays summary statistics of the sample for the primary variables that are applied in this study. The sample consists of 332 firm-year observations during the period 2012-2016. Traditional advertising expenses = the ratio of total traditional advertising expenses to total assets from 2012 to 2016; Digital advertising expenses = the ratio of total digital advertising expense to total assets from 2012 to 2016; total advertising expenses = the ratio of total advertising expenses to total assets from 2012 to 2016; Tobin's *q* = firm value; firm size = the firm's closing prices of shares at the end of the fiscal year by the firm's number of common shares outstanding; profitability = return on assets (ROA); financial leverage = long-term debt over total assets.

Table 2

Correlation Coefficient Summary

***Table 2.1**: Correlation Coefficient of the Relationship between Total Advertising Expenses and Firm Value*

	Tobin's *q* (Firm Value)	**TotalAdExpenses**	**Size**	**Profitability**
TotalAdExpenses	0.266***			
	(0.000)			
Size	0.239***	-0.254***		
	(0.000)	(0.000)		
Profitability	0.154***	0.113**	-0.087	
	(0.005)	(0.040)	(0.115)	
Leverage	0.010	0.091*	-0.141***	0.946***
	(0.860)	(0.098)	(0.010)	(0.000)

Significant value is reported in parentheses. * Correlation is significant at the 0.10 level; ** Correlation is significant at the 0.05 level; *** Correlation is significant at the 0.01 level. TotalAdExpenses = the ratio of total advertising expenses to total assets; Tobin's *q* = firm value; size = the natural logarithm of the firm's market value; profitability = return on assets (ROA); leverage = long-term debt over total assets.

***Table 2.2**: Correlation Coefficient of the Relationship between Traditional Advertising Expenses and Firm Value*

	Tobin's *q* (Firm Value)	**TradAdExpenses**	**Size**	**Profitability**
TradAdExpenses	0.349***			
	(0.000)			
Size	0.239***	-0.469***		
	(0.000)	(0.000)		
Profitability	0.154***	0.219***	-0.087	
	(0.005)	(0.000)	(0.115)	
Leverage	0.010	0.169***	-0.141***	0.946***
	(0.860)	(0.002)	(0.010)	(0.000)

Significant value is reported in parentheses. * Correlation is significant at the 0.10 level; ** Correlation is significant at the 0.05 level; *** Correlation is significant at the 0.01 level. TradAdExpenses = the ratio of total traditional advertising expenses to total assets; Tobin's *q* = firm value; size = the natural logarithm of the firm's market value; profitability = return on assets (ROA); leverage = long-term debt over total assets.

***Table 2.3**: Correlation Coefficient of the Relationship between Digital Advertising Expenses and Firm Value*

	Tobin's *q* (Firm Value)	**DigitalAdExpenses**	**Size**	**Profitability**
DigitalAdExpenses	0.124**			
	(0.023)			
Size	0.239***	-0.047		
	(0.000)	(0.396)		
Profitability	0.154***	0.015	-0.087	
	(0.005)	(0.787)	(0.115)	
Leverage	0.010	0.016	-0.141***	0.946***
	(0.860)	(0.770)	(0.010)	(0.000)

Significant value is reported in parentheses. * Correlation is significant at the 0.10 level; ** Correlation is significant at the 0.05 level; *** Correlation is significant at the 0.01 level. DigitalAdExpenses = the ratio of total of digital advertising expenses to total assets; Tobin's *q* = firm value; size = the natural logarithm of the firm's market value; profitability = return on assets (ROA); financial leverage = long-term debt over total assets.

Table 3

Association between Advertising Expenses and Firm Value without a Moderator Variable's Interaction Effect

Variables	**Dependent Variable -Tobin's *q* (Firm Value)**			
	Model 1 (Hypothesis 1)	**Model 2 (Hypothesis 1a)**	**Model 3 (Hypothesis 1b)**	**Model 4 (Hypothesis 2)**
TotalAdExpenses	8.207**			
	(2.064)			
TradAdExpenses		30.333***		
		(10.321)		
DigitalAdExpenses			4.178***	
			(8.684)	
DigitalAdExpenses – TradAdExpenses				-1.727
				(-0.356)
Leverage	-0.824***	-0.660**	-0.888***	-0.877***
	(-2.771)	(-2.564)	(-2.811)	(-2.752)
Profitability	3.980***	3.100***	4.331***	4.281***
	(2.818)	(2.513)	(2.899)	(2.832)
Size	0.205***	0.341***	0.146***	0.150***
	(3.364)	(5.980)	(2.762)	(2.617)
Year Fixed-Effects	Yes	Yes	Yes	Yes
Observations	332	332	332	332
R-Squared	0.330	0.424	0.267	0.254

Tobin's *q* = firm value; TotalAdExpenses = the ratio of total advertising expenses to total assets; TradAdExpenses = the ratio of total traditional advertising expenses to total assets; DigitalAdExpenses = the ratio of total of digital advertising expenses to total assets ; DigitalAdExpenses - TradAdExpenses = the ratio of digital advertising expenses to total assets minus the ratio of traditional advertising expenses to total assets; leverage = long-term debt over total assets; profitability = return on assets (ROA); size = the natural logarithm of the firm's market value. t statistics are reported in parentheses. * Correlation is significant at the 0.10 level; ** Correlation is significant at the 0.05 level; *** Correlation is significant at the 0.01 level.

Table 4

Association between Advertising Expenses and Firm Value with Moderator Variables

Variables	Dependent Variable -Tobin's *q* (Firm Value)	
	Model 5 (Hypothesis 3)	**Model 6 (Hypothesis 4)**
TradAdExpenses	31.455***	
	(10.090)	
DigitalAdExpenses		87.409***
		(4.009)
Satisfaction	0.017**	0.046***
	(2.780)	(4.141)
Leverage	-0.439**	-0.688***
	(-2.057)	(-5.882)
Profitability	2.111**	3.425***
	(2.081)	(6.547)
Size	0.381***	0.255***
	(7.058)	(5.215)
TradAdExpenses × Satisfaction	1.881***	
	(3.207)	
DigitalAdExpenses × Satisfaction		10.558***
		(3.889)
Year-Fixed Effect	Yes	Yes
Observations	239	239
R-Squared	0.444	0.298

The sample consists of 332 firm-year observation during the period 2012-2016. Tobin's *q* = firm value; TradAdExpenses = the ratio of total traditional advertising expenses to total assets; DigitalAdExpenses = the ratio of total of digital advertising expenses to total assets; size = the natural logarithm of the firm's market value; profitability = return on assets (ROA); size = the natural logarithm of the firm's market value; TradAdExpenses × Satisfaction = moderator of customer satisfaction on traditional media advertising expenses and firm value; DigitalAdExpenses × Satisfaction = moderator of customer satisfaction on digital advertising expenses and firm value. t statistics are reported in parentheses. * Correlation is significant at the 0.10 level; ** Correlation is significant at the 0.05 level; *** Correlation is significant at the 0.01 level.

Hypothesis 2 tested whether digital advertising contributes more to firm value than traditional advertising does. Table 3 shows the effect of advertising expenses on firm value. In Model 4 of Table 3, digital advertising did not contribute firm value more than traditional advertising ($p > .05$, $R^2 = .254$). Results rejected Hypothesis 2.

The researcher applied multiple regression analysis to examine the association between advertising expenses and firm value. Mean-centering was used to reduce multicollinearity between the moderating effect and its major effects. Hypotheses 3 and 4 analyzed advertising expenses and firm value using customer satisfaction as a moderator variable. The multiple-regression results for Model 5 in Table 4, after controlling for the control variables – firm size, financial leverage, and profitability –, supported Hypothesis 3. Traditional advertising expenses were positively associated with firm value ($t = 10.090$, $p < .01$). The coefficient of the interaction term TradAdExpenses x Satisfaction was positive and significant ($t = 3.207$, $p < .01$), indicating that customer satisfaction strengthened the relationship between traditional advertising expenses and firm value.

The multiple regression results for Model 6 in Table 4, after controlling for the control

variables – firm size, financial leverage, and profitability –, supported Hypothesis 4. The association between digital advertising expenses and firm value was positive and significant (t = 4.009, p < .01), as was the coefficient of the interaction term DigitalAdExpenses × Satisfaction (t = 3.889, p < .01). Customer satisfaction strengthened the association between digital advertising expenses and firm value.

Discussion

In this research, the researcher examined three questions: (a) whether advertising expenses positively affect firm value, (b) whether digital advertising contributes more value than traditional advertising, and (c) whether customer satisfaction moderates the relationship between advertising expenses and firm value. This research found that advertising expenses increase firm value. Digital advertising did not contribute more value than traditional advertising. Finally, customer satisfaction moderated the relationship between firm value and both traditional and digital advertising expenses. In the following paragraphs, the researcher discusses the results for each hypothesis test.

Hypothesis 1 was confirmed: traditional and digital advertising expenses predicted firm value. Firm value increased as advertising expenses increased. These findings were consistent with those of previous studies, including Chau and Hirschey (1993), Graham and Kristina (2000), Joshi and Hanssens (2010), and Sridhar et al. (2016), who revealed a positive relationship between advertising expenses and firm value. Many companies believe advertising is one of the best strategies to increase sales, market share, brand equity, and firm value.

Digital media has grown since commercial Internet use. Digital media makes customer communication faster and easier for companies. Given this increased investment in digital advertising and digital media's percentage of overall advertising expenditures, one may anticipate digital advertising to contribute as much or more to firm value than traditional advertising. However, this research showed that digital advertising does not contribute more to firm value than traditional advertising does. In addition, traditional advertising is better than digital advertising in generating firm value. There are many possible explanations for this finding. First, Ad Age database, using Kantar Media data, provided advertising expenditure figures. Digital advertising spending includes only desktop Internet-based text or display advertisements and paid search ads, which comprise product listings and text ads for desktop and mobile. Video and mobile advertisements are excluded from Kantar Media data. This underrepresentation of digital advertising expenditure may have affected Hypothesis 2 findings (i.e., that digital advertising contributes more to firm value than traditional advertising does). The research findings may vary if more digital advertising expenditure is included.

Second, digital spending may not be as effective as traditional spending in part due to implementation issues. Technical difficulties or fraud prevent consumers from seeing certain paid digital ads. For instance, ad stacking displays numerous advertisings in one location, but consumers only see one. Pixel stuffing displays ads in small frames that are unreadable. Visitors never see the advertisings, yet advertisers pay. Ads may appear on fraudulent or irrelevant websites. The firms' advertising spending is wasted on sites with the wrong audience or inappropriate content. Advertisers are fooled into buying spots on fraudulent

domains that seem like popular sites (Martin, 2016). Ad-blocking software also reduces digital advertising's efficacy. Ad blockers prevent advertising from appearing on a web page, allowing users to browse websites without interruptions. Because of ad blockers, digital advertising often does not reach its intended audience, which negatively impacts the effectiveness of digital advertising.

Third, credible and informative digital advertising may work better. Some digital advertising channels are more credible than others. According to MarketingSherpa (2017) search engine advertisements (61%), pre-roll ads (47%), and social media ads (43%) were the most trusted digital advertising channels. Hamouda (2018) confirmed that advertising credibility influences consumers' views of social-media advertising and that positive attitudes lead to positive behavioral responses (e.g., ad clicks, purchases, and additional searches).

This research supported Hypotheses 3 and 4. Customer satisfaction strengthened the relationship between advertising expenses (both traditional and digital) and firm value. Customer satisfaction considerably positively moderated the association between advertising expenses (both traditional and digital) and firm value. These findings were consistent with those of O'Sullivan and McCallig (2012), who demonstrated that customer satisfaction considerably positively moderates the relationship between earnings and firm value.

Conclusion

Advertising has developed over time. With the rise of the Internet and digital media, companies have taken to the Internet to advertise their products, services, and brands. Digital advertising helps marketers engage with consumers, influence behavior, and get real-time feedback. Many companies still advertise in traditional media including television, print, radio, and billboards. Firms anticipate both types of advertising to raise revenue, brand equity, market share, and firm value.

This research found that both traditional and digital advertising increase firm value; however, digital advertising did not contribute more value than traditional advertising did. Digital advertising is currently a major investment for many companies. Advertising managers must determine how to spend in digital and traditional media for commercial success. Finding the balance between traditional and digital advertising may be difficult. Not all advertising campaigns will be successful when delivered via online platforms. Fraudulent advertising impressions may make digital advertising less successful (in which a purchased advertisement is not displayed). Technical difficulties might sometimes reduce the appearance of sponsored web advertising. Ad-blocking also hinders companies' advertising. When digital advertising does not reach the target audience, companies' advertising investments are ineffective. Some consumers trust traditional advertising channels more than digital ones, which might influence their buying decisions. Increased credibility leads to more positive perceptions of digital advertising value.

This research also indicated that customer satisfaction moderated the association between firm value and both traditional and digital advertising expenses. When customer satisfaction increases, the relationship between advertising expenses and firm value grows stronger. Firms should focus on (a) products quality, (b) customer expectations, and (c) value to increase customer satisfaction.

Recommendation

For future research, it would be useful to examine the relationship between traditional and digital advertising expenses, in terms of firm value, with other moderating variables such as brand equity and customer lifetime value. The researcher did not consider the optimal proportions of traditional and digital advertising expenses in terms of firm value. Ma and Du (2018) examined firms from 2001 through 2012. Future researchers could repeat Ma and Du's study for different time periods and compare the findings. In this research, the researcher compared the roles of traditional and digital advertising expenses in generating firm value. Future researchers could analyze this relationship in more detail, such as by comparing the results for primarily offline companies to those of primarily e-commerce businesses (e.g., Amazon, Shopify, and Ebay). Future researchers could also compare business-to-consumer firms to business-to-business firms. Furthermore, the researcher applied annual advertising expenses, but applying data on monthly advertising expenses would allow for a time-series analysis of stock returns and Tobin's *q* as measures of firm value. Lastly, the researcher concentrated advertising expenses from 2012 to 2016; if future researchers use other time periods, then their findings may vary.

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