



THE IMPACT OF CORPORATE SOCIAL MEDIA ON REVENUE AND PROFIT: AN EXPLORATORY STUDY

Jensen J. Zhao¹, Sherry Y. Zhao²

Ball State University, Muncie, IN, USA¹, Massachusetts Institute of Technology, Cambridge, MA, USA²

jzhao@bsu.edu¹, syzhao@alum.mit.edu²

ABSTRACT- The growing popularity of social media has fundamentally altered the business ecosystem where companies can no longer solely capture consumers' attention via reach; instead, companies must focus on engaging consumers in product and service development and improvement. This exploratory study details how the corporate strategic use of social media relates to corporate revenue and profit among *Fortune 500* corporations. The findings indicate that the proper corporate use of social media impacts positively the corporate revenue and profit; whereas the improper corporate use of social media affects negatively the corporate revenue and profit.

KEYWORDS- Corporate social media strategy, consumer engagement, corporate revenue, corporate profit



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INTRODUCTION

Social media technologies have engendered radically new ways of human interaction, communication, and collaboration (Hansen, Shneiderman, & Smith, 2011). These tools are highly accessible, scalable Internet-based applications and mobile technologies, such as blog, online chat, Facebook, Flickr, LinkedIn, MySpace, Twitter, YouTube, and Vimeo, which can be used on any Internet-connected computers and smartphones (Anderson & Wolff, 2010; Harris, 2009). These social media tools are widely used by companies, schools, interest groups, professional organizations, and governments for various purposes (Porterfield, 2011).

The growing popularity of social media among consumers has fundamentally altered the business ecosystem where companies can no longer solely capture consumers' attention via reach; instead, companies must focus on engaging consumers in product and service development and improvement. Consumers' comments and ratings of products and services on social media can significantly impact a company's reputation, sales, and even survival (Hanna, Rohm, & Crittenden, 2011; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Walmsley, 2010).

Via social media, consumers actively influence brand messages and meanings. Consumer ideas and opinions help develop and improve product and service assortment; mobile devices represent business communication lifelines; social media such as online chat, Facebook, and Twitter serve as crystal balls that help companies determine future product or service initiatives (Hanna, Rohm, & Crittenden, 2011; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). At its IdeaStorm site, Dell took in more than 17,000 ideas for new or improved products, and adopted nearly 500 ideas, including the idea that backlit keyboards are better for working on airplanes. Dell also put its own ideas on IdeaStorm for feedback before going ahead. For instance, Dell posted a proposed specialty laptop to target people who write wireless apps and other web-based software using a variation of the Linux operating system called Ubuntu. In one day, customers posted 83 ideas for improving the machine on IdeaStorm. Dell found that the process produced more detailed feedback than traditional focus groups and built links to an important group of customers (Mullaney, 2012).

Petco, a leading pet specialty retailer, leveraged consumers' great passion for their pets on social media. The Petco social media team figured out that executing a corporate social media strategy meant being a part of social discussions regardless of where they were happening. The company provided multiple Petco fan pages on Facebook, Twitter, YouTube, blog, and Google+ and helped people raise pets with ease by bringing opinions together and harvesting them into a community. In return, the social media community helped to influence purchase decisions and increase the company's sales (Gillette, 2010).

Similarly, Ford Motor Company's social media strategy was to form the Ford Social Networks by incorporating a variety of tools such as Facebook, Twitter, YouTube, Flickr, Scribd, Instagram, and Reviews. The Ford Social Networks enabled consumers to read Ford's articles, to submit stories about Ford vehicles, to post customer ideas for continuous improvement of Ford products, and to view pictures and videos of Ford vehicles (Zhao, Truell, Alexander, Sharma, & Smith, 2013).

Witnessing the power of social media, many companies have invested in social media for reaching and engaging consumers. According to a study of companies with over 1,000 employees conducted by Altimeter Group, in 2012, companies with revenues between \$1 billion and \$10 billion spent an average of \$1.53 million on social media, whereas companies with revenues over \$10 billion spent an average of \$4.2 million on social media (Leonard, 2013). Results from the February 2012 CMO Survey of top U.S. marketers at *Fortune 1000* and *Forbes Top 200* companies indicated that the social media spending was 3.5% of company marketing budget on average in 2009 and increased to 7.4% of the marketing budget in 2012. From the initial 3.5% in 2009 to 7.4% in 2012, there was an increase of 111%. The top U.S. marketers expected that the social media spending would reach 19.5% of their marketing budgets in five years following 2012 (Moorman, 2012).

Despite the increase in corporate spending on social media, no nation-wide empirical studies have been documented in the literature regarding the relationship of corporate strategic use of social media and corporate revenue and profit. This exploratory study attempts to investigate whether and how corporate strategic use of social media relates to corporate revenue and profit. The findings of this study can help advance the knowledge base of business and information systems disciplines regarding the impact of social media and upon which large-scale, multi-year, repeated measurement studies of the topic can be developed. Second, the findings will inform corporate social media managers on how their strategic use of social media relates to corporate revenue and profit, as well as assist them in continuous improvement of corporate social media strategy. Finally, the findings will provide business and information systems educators with the information they need to keep their curricula current on the proper choice and effective use of social media for consumer engagement in the Internet age.

The following section presents the related literature review which illustrates theoretical and empirical foundations regarding the relationships among social media, consumer engagement, and corporate revenue and profit. Based on the literature review, we present the research design along with the research hypotheses. Following the research design are the research method, data analysis, and results. We conclude the paper by summarizing its findings, discussing its theoretical and empirical contributions, presenting managerial and pedagogical implications and recommendations for further research.

2. RELATED LITERATURE REVIEW

Literature related to the research question of whether and how corporate strategic use of social media relates to corporate revenue and profit comes from three areas: (a) relationships among media richness, media choice, and media



convenience; (b) relationships among communication, information, certainty, and profitability; and (c) corporate social media strategies.

2.1 Media Richness, Media Choice, and Media Convenience

To assist managers and consumers in optimizing their use of business and organizational communication tools, Daft, Lengel, and Trevino (1977, 1987, 1988, 1990) conducted studies and found that communication tools vary in their abilities to (a) allow the amount of information to be transmitted in a given time interval, (b) handle multiple information cues simultaneously, (c) facilitate rapid feedback, and (d) establish personal focus. Based on their findings, Daft et al. developed a theory of media richness and media choice. On the media-richness hierarchy, face-to-face communication is the richest medium, followed by telephone, email, personal written documents such as letters, memos, reports, and impersonal written documents such as fliers and bulletins. Social media consist of various Internet-based communication and collaboration tools that can be grouped with telephone and email on the media-richness hierarchy (Kaplan & Haenlein, 2010). Regarding the media-choice decision, the richest medium, face-to-face communication, is more appropriate for highly ambiguous tasks such as negotiation and conflict resolution because it provides immediate feedback, multiple cues, and personal focus. Telephone, email, and social media are less rich than face-to-face because they do not convey eye contact and other body language cues interpersonally and synchronously. Therefore, they are suitable for less ambiguous, routine information exchange. Paper-based written media are the lowest on the media-richness hierarchy because they have limited cues and slow feedback; thus, they are most suitable for unambiguous, routine communications.

According to social presence theory (Short, Williams, & Christie, 1976), the media richness in intimacy (interpersonal vs. mediated) and immediacy (asynchronous vs. synchronous) affects media's social presence such as the acoustic, visual, and physical contact that the media allow to emerge among communication partners. Social presence is expected to be higher for interpersonal (e.g., face-to-face meeting) than mediated (e.g., telephone conversation) and for synchronous (e.g., live chat) than asynchronous (e.g., email) communications. The higher the social presence, the larger the social influence on communication participants' behavior and productivity; thereby affecting business revenue and profit.

However, managers' and consumers' choices of media are not only influenced by media richness but also by contextual determinants such as distance, time pressure, usage convenience, accessibility, and media symbolism such as authority, formality, and urgency (Trevino, Lengel, & Daft, 1987). A survey of 182 U.S. companies' use of business communication tools (Zhao, McEwen, & Wunsch, 1997) reported that most respondents preferred to use email, telephone, pager, and voice mail (at the time of the study) and the respondents ranked these communication tools at the top in enhancing user productivity and company revenue and profit. Many respondents also added that their companies could not exist in today's business world if they did not use email, phone, pager, voice mail, and fax for business communication. In contrast, the respondents ranked corporate groupware and intranet as the least-chosen and least-preferred communication tools because of their lack of usage convenience and user friendliness.

As the media richness, choice, and convenience literature indicates, social media clearly carry the characteristics such as being rich in information sharing, convenient in usage, flexible in choice and access, and easy to keep information current and communication interactive. These characteristics would influence corporate revenue and profit when companies use social media strategically.

2.2 Communication, Information, Certainty, and Profitability

In business and organizational activities, communication is a process of gathering, sending, receiving, and interpreting messages that enables people to generate and share information. Information, therefore, is an outcome of communication that provides people with both a rationale and a direction for understanding their environment, coordinating activities, predicting the future, making decisions, and solving problems (Kreps, 1990). Information theorists Shannon and Weaver (1949) referred to information as the *reduction of uncertainty*; that is, something has informational value to the extent that it reduces a receiver's uncertainty and increases the predictability of future events. Thus, information helps to decrease the number of decisions an individual has to make and to increase the certainty with which the individual can direct his or her behavior.

Weick (1979) used the term "equivocality" instead of "uncertainty" in his theory of organizing. Equivocality is the level of understandability of messages to which organization members respond. The key aspects of Weick's definition of equivocality are ambiguity, complexity, and obscurity of messages. The equivocality of a message relates to the *certainty* with which an organization member can decode that message. Weick suggested using his communication model of rules and cycles to process highly equivocal information input by reducing uncertainty and transforming it into understandable information output with a high degree of predictability.

Managers and consumers often face three different environments for decision making and problem solving: certainty, risk, and uncertainty (Schermerhorn, 1993). In a *certain* environment, information is sufficient for the problem solver to know the possible alternatives and the results of each. Few business and managerial problems occur in such an ideal environment. In a *risky* environment, the problem solver lacks sufficient information on the possible solutions and their consequences but does have some sense of the probabilities associated with their occurrence. This is a fairly common decision environment for managers or consumers. When information is so poor (that is, so highly equivocal) that managers or consumers are unable even to assign probabilities to the likely outcomes of possible alternatives, an *uncertain* environment exists. This is the most difficult environment; therefore, managers or consumers have to use communication to reduce uncertainty and generate sufficient information with which to make sound decisions.



With the growing popularity of social media, research found a significant correlation between a company's engagement in sharing information and creating certainty among consumers on social media and its revenue and profit. A study of the world's 100 most valuable brands as ranked by *Business Week* and *Interbrand's* "Best Global Brands 2008" reported that, on average, companies with the deepest social media engagement increased revenue by 18% while the least active companies on social media saw sales drop by 6% in 2008. The study indicated that it was not just about having a presence in a number of social media; it was the level of engagement within each of these social media that seemed to correlate to financial performance (White-Cabbell, 2009). Rishika, Kumar, Janakiraman, and Bezawada's (2013) research found that customers' participation on corporate social media increased their shopping visits. Customers became more engaged when there were high levels of communication activities on a corporate social media site; as a result, customers exhibited a strong patronage, purchased premium products, and showed lower levels of buying focus and deal sensitivity.

2.3 Corporate Social Media Strategies

Companies use social media in varied ways to reach and engage consumers. Some companies use just a few social media tools for a social presence on the Internet as a supplement to their traditional marketing and advertising campaigns. In contrast, others use multiple social media tools to form strategic social media networks to engage consumers in generating ideas and comments for product and service development and improvement. Li and Bernoff (2008) pointed out five different types of social behaviors on social media: creators (e.g., publish, maintain, upload); critics (e.g., comment, rate); collectors (e.g., save, share); joiners (e.g., connect, unite); and spectators (e.g., read). While social media provide transmission of messages, the power of influence now centers around the consumers who engage in conversations on social media about companies' products, services, and business ethics. Therefore, companies need to understand consumers' social behaviors and business ethics, as well as develop proper social media strategies to reach and engage different types of consumers.

Based on the analysis of top 100 global brands' social media strategies, researchers at Wetpaint and Altimeter Group (2009) identified that corporate social media strategies could be classified into the following four groups. The first group was named "Mavens." These companies engaged in seven or more social media tools and had an above-average engagement strategy. These companies had dedicated teams focused on social media and were able to sustain a high level of engaging consumers across multiple social media. Second, "Butterflies" were companies engaged in seven or more social media tools but had lower than average engagement strategies. These companies had initiatives in many different social media but tended to spread themselves too thin, such as investing in some social media while letting others languish. Third, "Selectives" were companies engaged in six or fewer social media but had a higher-than-average engagement strategy. These companies had a very strong presence in just a few social media where they focused on engaging consumers deeply as these media and consumers mattered most. And the last group, "Wallflowers," referred to companies engaged in six or fewer social media and had below-average engagement strategies. These companies were slow to or just started using social media. They were still trying to figure out the benefits and risks of social media by testing just a few of them.

As the related literature review illustrates, corporate strategic use of social media appears to influence consumer engagement and thereby influence corporate revenue and profit. To validate whether and how corporate strategic use of social media influence consumer engagement and predict corporate revenue and profit, we proposed the following research design with eight hypotheses.

3. RESEARCH DESIGN AND HYPOTHESES

The research design of this exploratory study consists of the corporate strategic uses of eight social media tools as multiple predictor variables and the corporate revenue and profit as dependent variables (see Figure 1). The corporate strategic use of social media included various approaches to reaching and engaging consumers. To measure the approaches to reaching consumers, the following measurements were used as predictor variables: (a) usage convenience; (b) currency and activeness; (c) types of information communicated on corporate social media: company's important decisions, current issues, customer comments, product/service promotion, public-relation promotion, and other; and (d) quantity of information on social media.

To measure the approaches to engaging consumers, two measurements were used as predictor variables: (a) number of consumers communicated on social media and (b) types of consumer comments and opinions. The dependent variables consisted of corporate annual revenue change, annual profit change, and annual profit as a percentage of stockholder's equity, which is also named return on equity. This return-on-equity percentage or ratio is used in business to analyze the ability of the company's management to realize an adequate return on the capital invested by the owners of the company. Generally, a relationship of at least 10% is considered as a desirable objective for providing dividends plus funds for future growth.

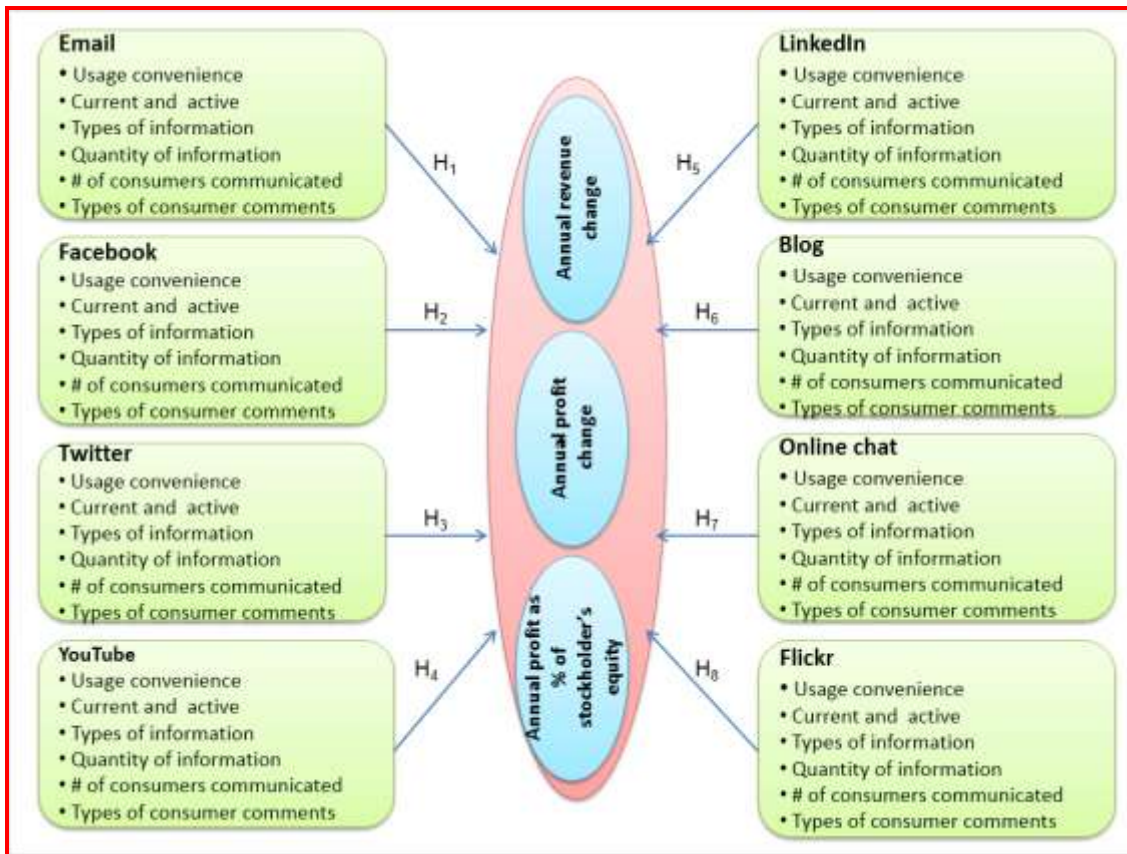


Figure 1. Research Design of Regression Analyses for Testing Relationship between Corporate Strategic Use of Social Media and Corporate Annual Revenue and Profit

Based on the research design, we tested the following eight hypotheses:

- H₁: The corporate strategic use of email for consumer engagement is a significant predictor of corporate revenue or profit.
- H₂: The corporate strategic use of Facebook for consumer engagement is a significant predictor of corporate revenue or profit.
- H₃: The corporate strategic use of Twitter for consumer engagement is a significant predictor of corporate revenue or profit.
- H₄: The corporate strategic use of YouTube for consumer engagement is a significant predictor of corporate revenue or profit.
- H₅: The corporate strategic use of LinkedIn for consumer engagement is a significant predictor of corporate revenue or profit.
- H₆: The corporate strategic use of blog for consumer engagement is a significant predictor of corporate revenue or profit.
- H₇: The corporate strategic use of online chat for consumer engagement is a significant predictor of corporate revenue or profit.
- H₈: The corporate strategic use of Flickr for consumer engagement is a significant predictor of corporate revenue or profit.

To test whether and how any significant relationship exists between corporate strategic use of social media and corporate revenue and profit, we used both the standard multivariate regression and stepwise multivariate regression analyses, which are appropriate for this type of research in business and information systems studies (Berk, 2008; Frey, Botan, Friedman, & Kreps, 1991; Kotabe & Helsen, 1998). The standard multivariate regression analysis allows researchers to predict or explain (a) the value of a dependent variable based on values of two or more predictor variables and (b) the knowledge of the relationships between a set of predictor variables and a dependent variable. When the standard regression analysis fails to identify any significant relationship between a set of predictor variables and a dependent variable, the stepwise regression would follow. The stepwise multivariate regression essentially runs the analysis multiple times, each time removing the weakest predictor, and at the end it identifies the variables that best explain the prediction or at the end it does not find any independent variable that can significantly predict a dependent variable (Berk, 2008; Frey, Botan, Friedman, & Kreps, 1991).



4. RESEARCH METHODOLOGY

This study used web-content analysis as the primary data collection method, which is commonly used in assessing organizations' strategies, deliveries, and interactions to customers, employees, investors, and other stakeholders on their web sites (Boggs & Walters, 2006; Campbell & Beck, 2004; Usunier & Roulin, 2010; Wilkinson & Cappel, 2005; Zhao & Zhao, 2012). To test the impact of corporate strategic use of social media toward corporate revenue and profit, corporate financial performance data were also collected for regression analysis. The research method of this study consisted of (a) instrument development, (b) data collection, and (c) data analysis.

4.1 Instrument Development

To systematically and objectively record how companies use social media tools on their e-commerce sites to facilitate online communication activities between companies and consumers, we developed an instrument based on the review of related literature and social media sites. The instrument consisted of three types of measurements: (a) social media tools available on the corporate e-commerce sites, (b) corporate marketing, advertising, and communication strategies on social media, and (c) consumer communication activities on social media. To determine the availability of social media tools on the corporate e-commerce sites, the instrument included blog, online chat, Facebook, Flickr, LinkedIn, MySpace, Twitter, YouTube, and Vimeo. Email, web-based suggestion box, webcast/webinar/podcast, and mobile web service were also added because the pilot study frequently identified these tools on the corporate e-commerce sites, which were linked with social media tools.

The corporate marketing, advertising, and communication strategies on social media included the following content categories: (a) usage convenience on a 5-point scale ranging from 1 = not available to 2 = not convenient, 3 = less convenient, 4 = convenient, and 5 = very convenient; (b) currency and activeness with a 5-point scale with 1 = not available, 2 = not current and active, 3 = less current and active, 4 = current and active, and 5 = very current and active; (c) types of information communicated on social media: company's important decisions, current issues, consumer comments and opinions, product and service promotion, public-relation promotion, and other; and (d) quantity of information on social media. The consumer communication activities on social media included the content categories of (a) number of consumers communicated on social media and (b) types of consumer comments and opinions on a 5-point scale ranging from 1 = very negative to 2 = negative, 3 = neutral, 4 = positive, and 5 = very positive. Texts and screen captures were collected as evidences to support the measures. For instance, a choice of company's important decision communicated on a company's Facebook page has to be supported by collecting textual message of that decision as evidence. A choice of "very convenient" for a social media tool means that (a) the tool is grouped with other social media in one place on the home page for easy identification, (b) it requires just one click to the tool page for easy access, (c) all the links of the tool must be workable, and (d) all the pages of the tool are user friendly for navigation. A choice of "very current and active" for a company's social media page must be supported by collecting the screen captures and textual messages illustrating that the communication activities were up to date and in which both company representatives and consumers participated very actively. Similarly, a choice of "positive" or "negative" as a measurement of consumer comments and opinions must be supported by collecting the screen captures and textual messages as evidence.

4.2 Data Collection

The population of this study consisted of the e-commerce sites of the *Fortune 500* largest U.S. corporations; they are chosen due to their status as the leaders of the U.S. big companies. A random sample of 217 *Fortune 500* corporate e-commerce sites was selected from the *Fortune 500* largest U.S. corporations of the year 2012 (*Fortune*; 2012) based on the sample-size requirement (Cochran, 1977).

A total of 108 business students at a Midwestern state university participated in this study as an experiential-assessment exercise when learning business communication and new media technology during the fall semester of 2012. In order to train the students to use the instrument properly, the lead researcher selected one e-commerce site from the sample and worked with his graduate assistant to analyze the content of the site and collect data with the instrument. The completed web-content analysis instrument was used as an example when training students on how to use the instrument properly. In addition, students also understood that they would play the role of researchers for web-content analysis and data collection, not the human subjects of the study.

The 108 students were randomly formed in pairs, with each pair of students assigned to four sites from the sample for the assessment exercise in a computer lab connected with the Internet. Each pair of students sat next to each other and collected data from the assigned sites independently. When completing the data collection of each site, they compared their collected data and reached agreement if there was any difference between them. When students encountered any difficulty and could not come to a team solution or agreement, they met with the lead researcher for problem solving and assurance of data quality.

To test whether the corporate strategic use of social media relates to corporate annual revenue and profit, the annual financial performance data of the 217 *Fortune 500* corporations were also collected in May 2013 from the 2013 list of *Fortune 500* largest U.S. companies at http://money.cnn.com/magazines/fortune/fortune500/2013/full_list/index.html?iid=F500_sp_full. The collected data were coded and entered to the Excel spreadsheet table for statistical analysis.

4.3 Data Analysis

Both the 2012 data of corporate strategic use of social media on e-commerce sites and the 2012 financial performance data of respective companies were used for the standard and stepwise multivariate regression analyses to test whether and how corporate strategic use of social media relates to corporate annual revenue and profit. The IBM SPSS Statistics software was used for the regression analyses at the 0.05 significance level. Table 1 illustrates the frequency counts and

percentage distributions of the eight social media tools frequently used by the 217 *Fortune 500* corporate e-commerce sites: Email, Facebook, Twitter, YouTube, LinkedIn, Blog, Chat, and Flickr. Next section will present the results of regression analyses.

Table 1. Social Media Communication Tools on Corporate Websites (N = 217)

Category	Frequency	Percentage
• Email	183	84%
• Facebook	149	69%
• Twitter	139	64%
• YouTube	93	43%
• LinkedIn	54	25%
• Blog	43	20%
• Chat	29	13%
• Flickr	20	9%

5. RESULTS

H₁ assumed, “The corporate strategic use of email for consumer engagement is a significant predictor of corporate revenue or profit.” As Table 2 presents, the stepwise multivariate regression analysis identified that the usage convenience of corporate email for consumers was found to be a significant statistical predictor of corporate annual profit as a percentage of stockholder’s equity ($r = .182$, $F = 6.085$, $df 1, 178$, $p < .05$). Therefore, H₁ is accepted since the p value (0.015) is less than 0.05. In addition, the R square of 0.033 means that 3.3% of the variation of annual profit as a percentage of stockholder’s equity can be explained by the variability in the usage convenience of a company’s email for consumers. The remaining 96.7% can be explained by other factors that are not in the model. The B value of 7.634 in the unstandardized coefficients suggests that by increasing one scale point of usage convenience of corporate email for consumers, the corporate profit as a percentage of equity would increase by 7.6% annually.

Table 2. Regression Analysis of Corporate Social Media for Consumers and Corporate Annual Revenue and Profit

Independent V → Dependent V	Unstandardized Coefficients								
	R	F	p-value	R Square	Adjusted R Square	B1	B2	B3	B4
H ₁ : Email → Profit	0.182	6.085	$p < 0.05$	0.033		7.634			
H ₂ : Facebook → Profit	0.214	8.57	$p < 0.005$	0.046		43.022			
H ₃ : Twitter → Profit	0.153	4.509	$p < 0.05$	0.023		164.794			
H ₄ : YouTube → Revenue	0.187	3.662	$p < 0.05$	0.035	0.026	5.481	-5.674		
H ₅ : LinkedIn → Profit	0.289	16.2	$p < 0.005$	0.083		12.196			
H ₆ : Blog → Revenue	0.055	0.119	$p > 0.05$						
Blog → Profit	0.068	0.186	$p > 0.05$						
H ₇ : Chat → Revenue	0.156	5.095	$p < 0.05$	0.024		15.754			
H ₈ : Flickr → Revenue	0.279	4.25	$p < 0.005$	0.078	0.06	22.222	40.21	-23.461	-17.048

H₂ assumed, “The corporate strategic use of Facebook for consumer engagement is a significant predictor of corporate revenue or profit.” The stepwise multivariate regression analysis indicated that sharing company’s important decisions on corporate Facebook page for consumers was found to be a significant statistical predictor of corporate annual profit as a percentage of stockholder’s equity ($r = .214$, $F = 8.57$, $df 1, 178$, $p < .005$). Therefore, H₂ is supported because the p value (0.004) is less than 0.005. Moreover, the R square of 0.046 means that 4.6% of the variation of annual profit as a percentage of stockholder’s equity can be explained by variability in the information content of a company’s Facebook for consumers. The B value of 43.022 also implies that by sharing company’s important decisions on corporate Facebook for consumers, the corporate profit as a percentage of stockholder’s equity would increase by 43% annually (see Table 2).

H₃ assumed, “The corporate strategic use of Twitter for consumer engagement is a significant predictor of corporate



revenue or profit." The stepwise multivariate regression analysis reported that sharing important decisions on corporate Twitter page for consumer communication was a significant statistical predictor of corporate annual profit change ($r = .153$, $F = 4.509$, $df 1, 189$, $p < .05$). Therefore, H_3 is accepted as the p value (0.035) is less than 0.05 (see Table 2). Furthermore, the R square of 0.023 means that 2.3% of the variation of annual profit change can be explained by variability of the information content on a company's Twitter for consumers. The B value of 164.794 also suggests that by communicating company's important decisions on corporate Twitter for consumers, the corporate annual profit would increase by 165%.

H_4 assumed, "The corporate strategic use of YouTube for consumer engagement is a significant predictor of corporate revenue or profit." As the multivariate regression analysis shows in Table 2, the usage convenience for consumers to watch company videos on its YouTube page was found to be a significant statistical predictor of corporate annual revenue change ($r = .187$, $F = 3.662$, $df 2, 201$, $p < .05$). Therefore, H_4 is supported because the p value (0.027) is less than 0.05.

In multivariate regression analysis, instead of using R square, the adjusted R square is used because it is to account for the use of more predictors. The adjusted R square of 0.026 interprets that 2.6% of the annual revenue change can be attributed to the two predictor variables of the usage convenience and the quantity of company videos posted on YouTube. The B values of 5.481 and -5.674 in the Unstandardized Coefficients table also suggest that by increasing one scale point of usage convenience for customers to watch company videos on its YouTube page, the corporate annual revenue would increase by 5.48% annually. In contrast, by raising one scale point of posting more videos on YouTube, the corporate annual revenue would decrease by 5.67%.

H_5 assumed, "The corporate strategic use of LinkedIn for consumer engagement is a significant predictor of corporate revenue or profit." The stepwise multivariate regression analysis found that the current and active information on corporate LinkedIn for consumers was a significant statistical predictor of corporate annual profit as percentage of stockholder's equity ($r = .289$, $F = 16.2$, $df 1, 178$, $p < .005$). Therefore, H_5 is accepted since the p value (0.000) is less than 0.005 (see Table 2). Moreover, the R square of 0.083 means that 8.3% of the variation of annual profit as a percentage of stockholder's equity can be explained by variability of how current and active the information was on corporate LinkedIn for consumers. The B value of 12.196 also implies that by increasing one scale point of providing consumers with current and active information on corporate LinkedIn, the corporate annual profit as a percentage of stockholder's equity would increase by 12%.

H_6 assumed, "The corporate strategic use of blog for consumer engagement is a significant predictor of corporate revenue or profit." As Table 2 shows, the information posted on corporate blog for consumers was found not to be a significant predictor of corporate annual revenue change ($r = .055$, $F = .119$, $df 5, 200$, $p > .05$) and nor to be a significant predictor of corporate annual profit change ($r = .068$, $F = .186$, $df 5, 200$, $p > .05$). Therefore, H_6 is rejected because the p values of blog to annual revenue change (0.988) and to annual profit change (0.967) were greater than 0.05.

H_7 assumed, "The corporate strategic use of online chat for consumer engagement is a significant predictor of corporate revenue or profit." The stepwise multivariate regression analysis indicated that the consumer complaints and comments on corporate online chat was a significant predictor of corporate annual revenue change ($r = .156$, $F = 5.095$, $df 1, 204$, $p < .05$). Therefore, H_7 is supported as the p value (0.025) is less than 0.05 (see Table 2). Furthermore, the R square of 0.024 means that 2.4% of the variation of corporate annual revenue can be explained by variability of the consumer complaints and comments on corporate online chat. The B value of 15.754 suggests that by increasing one scale point of enabling customers to chat online about their complaints and comments, the corporate annual revenue would increase by 15.8%.

H_8 assumed, "The corporate strategic use of Flickr for consumer engagement is a significant predictor of corporate revenue or profit." The standard multivariate regression analysis identified that the visual information on corporate Flickr for consumers was a significant predictor of corporate annual revenue change ($r = .279$, $F = 4.25$, $df 4, 201$, $p < .005$). H_8 is supported because the p value (0.003) is less than 0.05 (see Table 2). In addition, the adjusted R square of 0.060 means that 6.0% of the annual revenue variance can be attributed to the variables of posting four different types of visual information: (a) company employees' social events, (b) company's community events, (c) product and service promotion, and (d) PR promotion for customers. The B values of 22.222, 40.210, -23.461, and -17.048 in the Unstandardized Coefficients table imply that by posting visual information of company employees' social events and company's community events for customers, corporate annual revenue would increase by 22% and 40%, respectively. In contrast, by posting product and service promotion and PR promotion for customers, corporate annual revenue would decrease by 23% and 17%, respectively.

6. SUMMARY, DISCUSSION, AND CONCLUSION

Significant relationships exist between corporate strategic uses of social media and corporate revenue and profit. As Figure 2 summarized, regression analyses have revealed that the corporate strategic uses of seven social media: email, Facebook, Twitter, YouTube, LinkedIn, online chat, and Flickr are significant predictors for corporate annual revenue and profit, with only the corporate use of blog showing no significance.

Specifically, as findings from the tests of Hypotheses 1 and 4 indicate, the usage convenience of corporate email and YouTube for consumers is a significant predictor of increased corporate annual profit as a percentage of stockholder's equity and increased corporate annual revenue, respectively. The findings are consistent with those of the early research that the usage convenience of a communication tool can significantly enhance user engagement, thereby helping companies improve product and service qualities, revenue, and profit. In contrast, without usage convenience, any kind of media would be less chosen and less preferred even though it represents a new, advanced technology (Trevino, Lengel, & Daft, 1987; Zhao, McEwen, & Wunsch, 1997).

Second, the findings from the tests of Hypotheses 2 and 3 indicate the importance of types of information communicated on corporate Facebook and Twitter. Sharing company's important decisions with consumers on Facebook and Twitter is a significant predictor of company's annual profit as a higher percentage of stockholder's equity and increased annual profit, respectively. These findings may be explained with the communication-information-certainty-profitability theory (Kreps, 1990; Shannon & Weaver, 1949) that corporate engagement in sharing important decisions among consumers would create consumer certainty of and trust in the companies. As a consequence, consumers exhibited a strong patronage, purchased premium products, and showed lower levels of buying focus and deal sensitivity (Rishika et al, 2013).

Third, the finding from the test of Hypothesis 5 regarding the corporate strategic use of LinkedIn reveals that maintaining the corporate LinkedIn page current and active for consumers significantly predicts corporate annual profit as a higher percentage of stockholder's equity. This finding may underscore the importance of a cohesive social media strategy, where professional networking platforms such as LinkedIn, is utilized in addition to more casual platforms such as Facebook and Twitter (Wetpaint & Altimeter Group, 2009).

Furthermore, the finding from the test of Hypothesis 7 concerning the corporate strategic use of online chat indicates that enabling consumers to chat online about their complaints and comments significantly predicts increased corporate annual revenue. This finding suggests the importance of companies' listening to consumer complaints and comments, solving their problems, and continuously improving product and service qualities, as consumers' comments and ratings of products and services on social media can significantly impact a company's reputation, sales, and even survival (Hanna, Rohm, & Crittenden, 2011; Kietzmann et al, 2011; Walmsley, 2010).

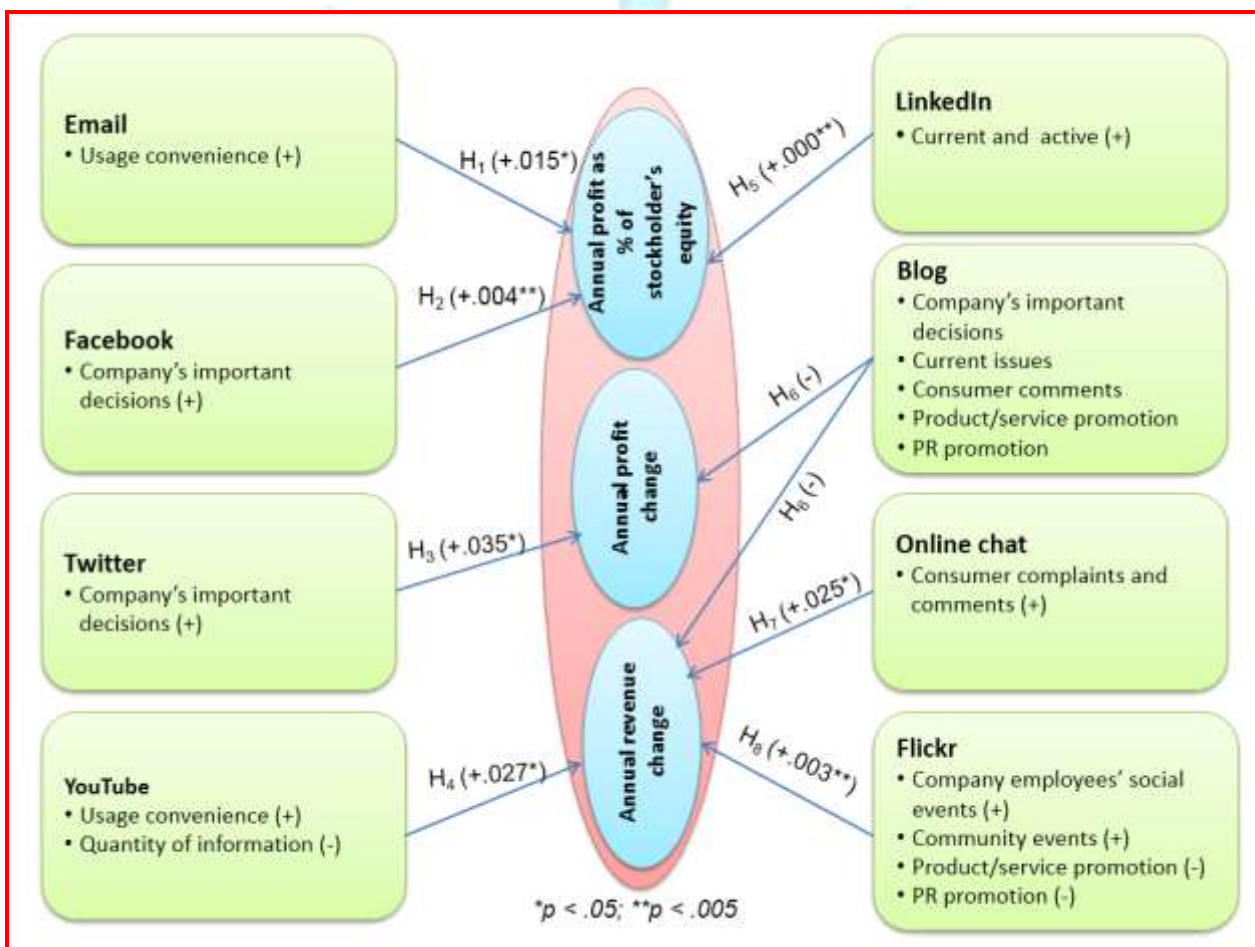


Figure 2. Summary Results of Regression Analyses of Corporate Strategic Use of Social Media and Corporate Annual Revenue and Profit

Finally, regarding the corporate strategic use of Flickr and YouTube, the findings from the test of Hypothesis 8 indicate that while sharing photos and videos of company employees' social events and company's community events with consumers on Flickr is a significant predictor of increased corporate annual revenue, posting product and service promotions and PR promotions on Flickr is a significant predictor of decreased corporate annual revenue. Similarly, one of the findings from the test of Hypothesis 4 indicates that posting too many videos on YouTube is a significant predictor of decreased corporate annual revenue. These findings may be explained by consumers' interest in corporate good citizenship such as how companies treat employees and how companies engage in community events. Consumers may view excessive posting of product, service, and PR promotions on Flickr and YouTube as improper use of social media. For example, the Flickr Community Guidelines state that "Don't use Flickr to sell." (<http://www.flickr.com/help/guidelines/>), whereas the YouTube Community Guidelines present that "It's not okay to post large amounts of untargeted, unwanted or repetitive content..." (http://www.youtube.com/t/community_guidelines).



In conclusion, the proper corporate strategic uses of social media such as email, Facebook, Twitter, YouTube, LinkedIn, online chat, and Flickr are significant predictors of positive corporate revenue and profit, whereas the improper uses of social media are significant predictors of negative corporate revenue and profit. The proper corporate strategic uses of social media appear to be well established on the basis of media and communication theories such as the media richness, media choice, and media convenience theory; the communication-information-certainty-profitability theory; and the theories of consumer social behaviors and business ethics. These findings also advance such theories to the Web-based social media applications in the Internet age.

7. MANAGERIAL AND PEDAGOGICAL IMPLICATIONS

The findings of this study would help corporate social media managers better understand how the proper strategic uses of social media relate to increases in corporate revenue and profit. For example, to enhance the social media convenience, developers may need to group different social media tools in one obvious location on the home page of the company web site for easy identification. For easy access, each of the social media tools may require just one click to reach its tool page and every link must be workable. All the social media pages should be user friendly for easy navigation and present current information to actively engage consumers in generating ideas and comments for product and service development or improvement.

The findings of the study also provide business and information systems educators with empirical information that they need to update their curricula. Therefore, students will be able to learn not only how to properly use different social media tools but also how to properly develop and implement corporate social media strategies for effective and efficient consumer engagement. For instance, students would know how to properly use YouTube and Flickr after learning that posting too many videos and pictures for product and service promotions on YouTube and Flickr may not only negatively predict corporate revenue and profit but also reflect improper social media behavior. Business educators can also use the findings to illustrate how consumers' negative comments on social media could help companies improve their product and service quality and thereby increase companies' revenue and profit.

8. RECOMMENDATIONS FOR FURTHER RESEARCH

The findings of this exploratory study are limited to the impact of one-year's implementation of corporate strategic use of social media on the revenue and profit. To investigate the long-term impact, a multi-year, repeated analysis needs to be undertaken to measure how corporate strategic use of social media relates to corporate revenue and profit during three years and five years, respectively.

Second, the study should be replicated among U.S. small and mid-sized companies to test whether and how their corporate strategic use of social media relates to their corporate revenue and profit.

Third, replication should also be undertaken among foreign corporations whose native languages and cultures differ from those in the United States to see if their corporate strategic use of social media has similar relationships with their corporate revenue and profit.

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