

STRATEGIC USE OF SOCIAL MEDIA ON COMPANIES' E-COMMERCE SITES

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Abstract

Objective: This study assessed the Fortune 500 largest U.S. companies' strategic use of social media for e-commerce and industry differences. **Background:** Social media have changed the traditional communication landscape and empowered consumers to play active roles in economic activities as they are no longer merely passive recipients in the business transactions. While the importance of using social media for business becomes obvious, no nation-wide study has been identified in the literature on how companies use social media strategically. Therefore, an empirical study is needed. **Method:** The study used the web content analysis for data collection and analysis of a sample of 217 Fortune 500 e-commerce sites. **Results:** The findings showed that seven popular social media tools were available only on around 50% of the 217 sites for consumer-to-consumer and consumer-to-company online interaction, communication, networking, and collaboration. Less than 50% of the consumers were actively engaged in using social media tools for posting ideas and comments. **Conclusions:** E-commerce administrators need to consider offering more social media tools and motivate consumers to actively communicate with the companies via social media. The study also recommended topics for further research.

Social media are the tools for social networking, interaction, communication, and collaboration. These tools are developed with 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. These social media tools are widely used by companies, schools, interest groups, professional organizations, and governments for varied purposes (Porterfield, 2011).

Social media have changed the traditional communication landscape and empowered grassroots people to play active roles in economic, social, and political

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activities. Social media also bring enormous challenges to companies as consumers are no longer merely passive recipients in the business transactions. Empowered with social media, consumers are taking an increasingly active role in co-creating everything from product design to promotional messages; they want companies to listen, appropriately engage, and respond (Berthon, Pitt, McCarthy, & Kates, 2007; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). For instance, acting on behalf of her 4-year-old brother who loves to cook and wanted an oven, McKenna Pope, a 13-year-old girl got more than 40,000 signatures on her online petition at Change.org requesting the toy maker of the Easy-Bake Oven to make a version for both boys and girls. In response, the manufacturer of the Easy-Bake Oven, a toy marketed only to girls over its 50-year history, accepted the petition to make a gender-neutral oven and to include boys in the ads starting in 2013 (Cavaliere, 2012).

Clearly, the growing popularity of social media among consumers has fundamentally altered the marketing ecosystem where companies have less control over information to influence consumers. By contrast, consumers' comments and ratings of products and services on social media can significantly impact a company's reputation, sales, and even survival (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Walmsley, 2010).

However, when companies change their mentality from business-centered to consumer-centered thinking, they can see that social media bring them great opportunities for engaging consumers and listening to them for what they would like and need. 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).

As consumers trust third-party experts and people like themselves more than they trust companies as much as they used to, Ford Motor Company's social media strategy is "humanizing" the company by using Twitter. Scott Monty, head of social media at Ford said that ultimately Twitter is the most personal of all the social media networks. It is one-on-one communication in the public square, which gives a person the satisfaction of having interaction with a big company like Ford and of being heard. In addition, Twitter shows the public that the company is listening (Gillette, 2010).

Similarly, the corporate social media strategy of Petco, a leading pet specialty retailer, is that the company takes customers' great passion for their pets and does something with it on social media. The Petco social media team figured out that executing the strategy means being a part of social discussions regardless

of where they are happening. The company provides multiple Petco fan pages on Facebook, Twitter, YouTube, blog, and Google+ and helps people raise pets with ease by bringing opinions together and harvesting them into a community. In return, the social media community helps to influence purchase decisions and increase the company's sales (Gillette, 2010).

Recognizing the power of social media, many companies started to use social media for satisfying their needs. Kia Motors, Best Buy, Viacom, Cisco Systems, and Intuit are a few other companies that use Facebook, Twitter, and YouTube to engage customers in their product development, branding, pricing, and continuous improvement by analyzing customers' continuous, real-time input on the social media (King, 2011).

While the importance of using social media for business becomes obvious, no nation-wide study has been identified in the literature on how companies use social media strategically for achieving their missions and objectives. This research gap indicates a need for a nation-wide empirical research of business use of social media. We chose the *Fortune 500* largest U.S. companies for this study because these companies are the leaders of the U.S. big companies.

Problem and Purpose

The problem addressed in this study was to assess the *Fortune 500* largest U.S. companies' strategic use of the social media for e-commerce and industry differences. To solve the problem, we raised the following four research questions:

1. What social media tools are available on the *Fortune 500* e-commerce sites?
2. How do the *Fortune 500* e-commerce sites use social media strategically for marketing and branding products and services?
3. How do consumers engage in the *Fortune 500* marketing and branding activities via social media?
4. Are there any significant differences among industry groups of the *Fortune 500* e-commerce sites?

The primary purpose of the study is to advance the knowledge base of the business communication and information systems disciplines. Second, the findings will serve as benchmarks for corporate social media managers to make continuous improvement that will meet total consumer and company satisfaction. Finally, the findings of the study will provide business communication and information systems educators with the information they need to keep their curricula current on the appropriate choice of social media and the effective use of social media for business communication in the Internet age.

Methodology

The population of this study consisted of the e-commerce sites of the *Fortune 500* largest U.S. corporations. A random sample of 217 *Fortune 500* corporate

e-commerce sites was selected from the *Fortune 500* largest U.S. corporations of the year 2011 (*Fortune*, 2011) based on the sample-size requirement (Cochran, 1977). As Table 1 shows, the 217 sites were classified in seven groups according to the *Fortune's* industry classification: Manufacturing, food and beverages ($n=56$, 26%); banks, finance, and insurance ($n=34$, 16%); retail and wholesale ($n=29$, 13%); transportation and utilities ($n=27$, 12%); computer, information, and telecommunication ($n=26$, 12%); construction, engineering, mining, oil and gas ($n=24$, 11%); and healthcare and hospitality service ($n=21$, 10%).

Table 1
Demographic Profile of Participating Fortune 500 Companies (N = 217)

Group #	Industry	Frequency	Percentage
1	Manufacturing, Food and Beverages	56	26%
2	Banks, Finance, and Insurance	34	16%
3	Retail and Wholesale	29	13%
4	Transportation and Utilities	27	12%
5	Computer, Information, and Telecommunication	26	12%
6	Construction, Engineering, Mining, Oil and Gas	24	11%
7	Healthcare and Hospitality Service	21	10%
Total		217	100%

Web content analysis is commonly used in assessing organizations' strategies, deliveries, and interactions to customers, employees, investors, and other stakeholders on their websites (Boggs & Walters, 2006; Campbell & Beck, 2004; Wilkinson & Cappel, 2005; Zhao & Zhao, 2004; Zhao, Truell, & Alexander, 2006). To systematically and objectively record how e-commerce sites use social media tools to facilitate online communication activities between companies and consumers, we developed an instrument based on the review of related literature and social media sites.

To determine the availability of social media tools on the 217 *Fortune 500* e-commerce sites, we included blog, online chat, Facebook, Flickr, LinkedIn, MySpace, Twitter, YouTube, and Vimeo in the instrument. We also added email, web-based suggestion box, webcast/webinar/podcast, and mobile web service because in our pilot study we frequently identified these tools on the corporate e-commerce sites, which were linked with social media tools. The instrument consisted of four types of measurements: (a) demographic profile of the participating companies, (b) social media tools available on the e-commerce sites, (c) corporate marketing, branding, and advertising strategies on social media, and (d) consumer communication activities on social media.

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 spring 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. The collected data were coded and entered into an Excel spreadsheet table for statistical analysis. Frequency counts, percentage distributions, weighted means were prepared. One-way ANOVA test and post hoc Scheffé test were employed to identify whether any significant differences exist at the .05 alpha level among industry groups in using social media.

Findings

The findings of this study are reported in the sections of (a) social media tools available on e-commerce sites, (b) marketing, branding, and advertising strategies on social media, (c) consumer communication activities on corporate social media, and (d) significant industry differences in using social media on e-commerce sites.

Social Media Tools Available on E-Commerce Sites

The *Fortune 500* e-commerce sites provided varied social media tools to attract consumers' participation in their respective online marketing, branding, and advertising activities. As Figure 1 shows, Contact Us Email (84%), Facebook (62%), and Twitter (59%) were available on the majority of the *Fortune 500* e-commerce sites, followed by YouTube (40%), webcast/webinar/podcast (24%), LinkedIn (22%), and blog (20%). In contrast, only a minority of the sites offered mobile web service (18%), suggestion box (15%), live chat (10%), Flickr (9%), and MySpace (4%). However, 54% of the companies provided other social media such as company video clips, RSS feeds, and interactive surveys on their e-commerce sites.

Some companies also provided social media tools in an interconnected mold on their e-commerce sites. As Figure 2 illustrates, Ford Motor Company's Social Networks consisted of a variety of tools such as Facebook, Twitter, YouTube, Flickr, Scribd, Instagram, and Reviews. In addition, 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 (see Figure 2). Similarly, on Steelcase's LinkedIn page, the company not only enabled consumers or prospective employees to reach its current employees but also promoted its products by enabling consumers to view its products and to read other consumers' recommendations for Steelcase products (see Figure 2).

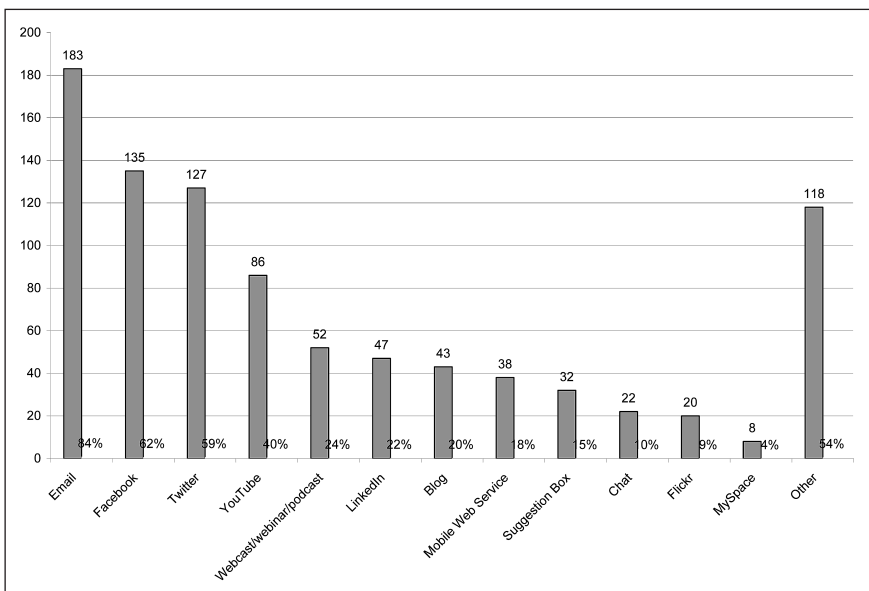


Figure 1. Social Media Tools Available on Fortune 500 E-Commerce Sites (N = 217).

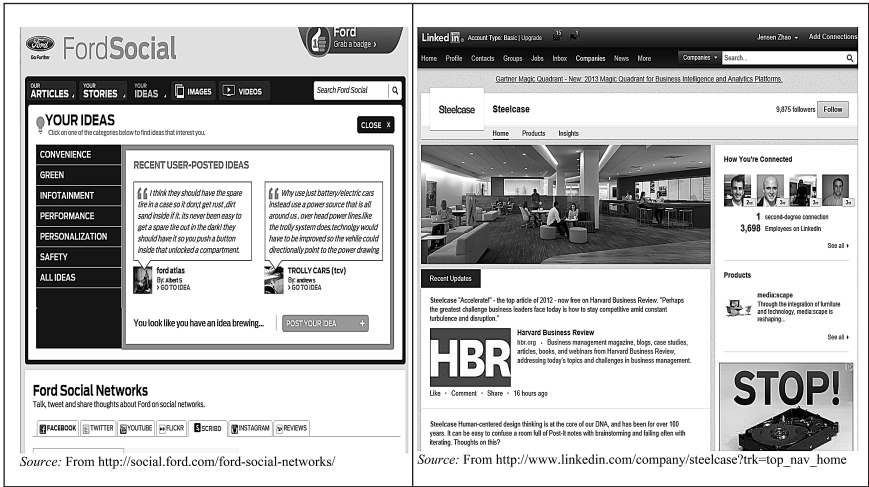


Figure 2. Examples of Companies' Use of Social Media Tools.

Marketing, Branding, and Advertising Strategies on Social Media

Corporate strategic objectives of marketing, branding, and advertising on social media focused on (a) introducing new products and services, (b) promoting existing products and services, (c) posting consumer comments about products and services, (d) presenting current business issues, and (e) branding corporate citizenship and goodwill. As Figure 3 illustrates, the e-commerce sites used Facebook, Twitter, YouTube, Blog, and Flickr primarily for product and service introduction and promotion, and secondarily for posting customer comments and current business issues.

For example, among 135 sites offering Facebook, the majority used it for product and service promotion (62%) and new product and service introduction (56%), for example, “You can rent specialty tools to do car work yourself!” “New treatment for cold sores!” “App for testing toilet performance, connecting to product specs and local retailers!” and “Write 5 product reviews and get \$5 in Shop Your Way Rewards points.” Nearly half (44%) of the sites posted consumer comments, positive and negative, regarding their products and services on Facebook. For instance, “Love being a premier/premier executive and getting upgrades! It was great getting upgraded free from Maui back to Chicago in June!” “My Kenmore Elite washer has plastic baffles that continue to break!” “They do outsource, because I have spoken to at least 2 people who did not only ‘not’ speak English very well but also could not comprehend it very well either.” And “The company needs to get organized and state the facts of their warranty: It is null and void after 30 days!!” Only a minority (24%) of the sites presented their companies’ current business issues on Facebook, such as “health stories about bed bugs,” and “facts about aluminum.”

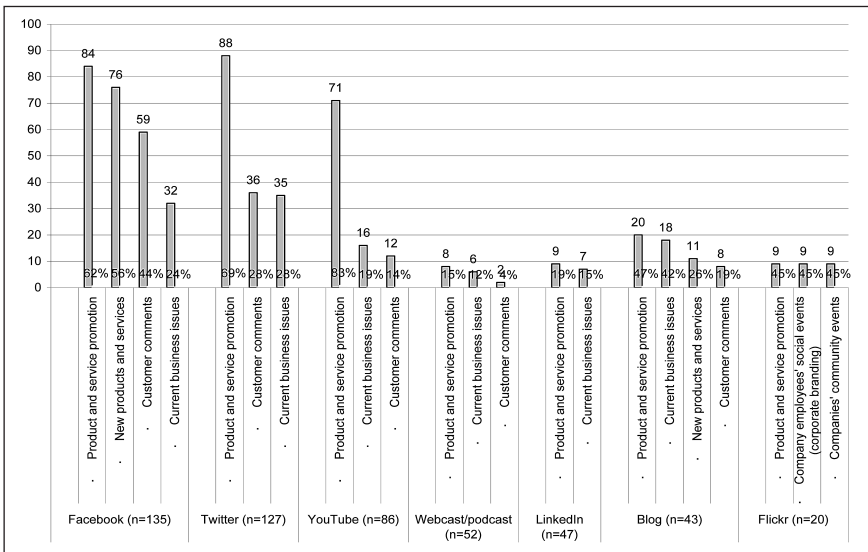


Figure 3. Marketing, Branding, and Advertising Activities on Fortune 500 Social Media.

Similarly, Twitter was available on 127 sites of the participating corporations, which was mainly used for product and service promotion (69%), followed by posting consumer comments (28%) and companies' current business issues (28%). The tweets posted for product and service promotion, for instance, include "Recycle at football games." "Contests: sneak peak at new products." "Call a dealer to talk about loan options!" "New features of cars attracting customers." "Try Fiber-One Yogurt with coupon." "Here are some practical tips on choosing a television screen size." "Take black & white beyond basic with a little shine and unique accessories."

Consumer Communication on Corporate Social Media

One purpose of corporate use of social media is to actively engage consumers in their product development, branding, pricing, and continuous improvement by analyzing consumers' continuous, real-time comments on the social media. Figure 4 illustrates how many consumer comments were written on corporate Facebook, LinkedIn, blogs, and Flickr, respectively. Among 135 e-commerce sites offering Facebook, the majority (60%) received more than 10 comments from consumers. Only two sites (1%) had no consumer comments on their Facebook pages.

LinkedIn was available on only 47 e-commerce sites. While nearly half (47%) of these LinkedIn sites received no comments from consumers, 26% had more than 10 consumer comments, and 27% received fewer than 10 comments. Similarly, 43 Fortune 500 e-commerce sites offered blogs and only 47% of these

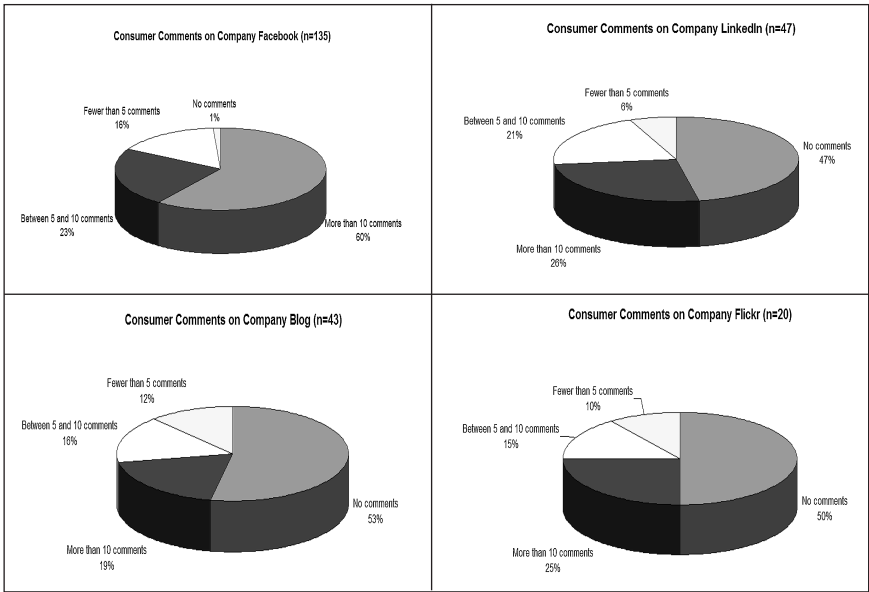


Figure 4. Consumer Comments on Fortune 500 Facebook, LinkedIn, Blog, and Flickr.

blogs received comments from consumers. However, as blogging pages log the number of viewers, the blogs on one-third of the sites were viewed by 3,800 to 269,000 consumers; the second one-third by 100 to 250 consumers; and only the last one-third by fewer than 20 consumers.

Flickr, a photo and video management and sharing online community, was available on only 20 e-commerce sites. While half of these 20 Flickr sites received no comments from consumers, the other half did receive consumer comments.

Twitter is a social networking and micro-blogging service that enables users to post and read short messages, called tweets. Each tweet is not longer than 140 characters, in both real time and virtual time. Twitter also logs (a) the number of tweets posted on the company Twitter pages, (b) number of people the company Twitter pages follow, (c) the number of followers on the company Twitter pages, and (d) the number of people listed on the company Twitter pages. As Figure 5 shows, of the 127 sites offering Twitter, only 17% of them had fewer than 200 tweets written by consumers on the corporate Twitter pages. By contrast, 54% of the sites received 200 to 3,000 tweets from consumers and 29% received 3,001 to 49,000 tweets. Similarly, those corporate Twitter pages followed people who had written tweets there. While 22% of the sites followed fewer than 200 people, 61% of the sites followed 200 to 3,000 people and the remaining 17% followed 3,001 to 82,600 people, respectively.

Figure 5 also illustrates the number of Twitter followers and the number of people listed on corporate Twitter pages. While only three sites (2%) had fewer than 200 followers, 64% of the sites had 200 to 20,000 followers and 34% engaged 20,001 to more than one million followers. Regarding the number of people listed on company Twitter pages, only a minority (26%) of the sites listed fewer than 100 people on their corporate Twitter pages, whereas the majority (74%) listed 100 to more than 10,000 people, respectively.

YouTube, a video-sharing online community, was available on 86 *Fortune 500* e-commerce sites. Figure 6 presents the findings of consumer communication activities on corporate YouTube sites in terms of how many people viewed a randomly selected video clip from each company site, how many people liked, disliked, or had no opinion on the randomly selected video clips. As Figure 6 shows, while only 9% of the sites had fewer than 100 people who viewed the company video clips, 44% had 100 to 1,000 people who viewed the company videos, and the remaining 47% had more than 1,000 people who viewed their company videos.

Concerning viewers' likes or dislikes expressed on company YouTube sites, 33% of the company videos were viewed as "likes," 16% of the company videos as "dislikes," whereas 51% of the company videos received "no opinion" from viewers.

Consumer communication on corporate social media can be illustrated in the following examples. Steelcase's Facebook site (https://www.facebook.com/Steelcase?ref=stream#_=_) posted the following message to encourage consumers to share their dreams:

"Welcome. For 100 years Steelcase has mined for human insights, and to celebrate our birthday we're gathering dreams of what the next century may look and feel like. We started with 100 children from around the world, and 100 brilliant minds from enterprise. Now it's your turn – will you share your dream with us?" (Steelcase, 2012, "100 Dreams. 100 Minds. 100 Years." para. 1).

In response to the invitation, many people shared their dreams of future workplace and technologies. These people were from Chicago, Illinois; Newport, Rhode Island; Providence, Rhode Island; Wellington, New Zealand; and Mumbai, India. Their dreams also received many tweets, Facebook likes and shares, and LinkedIn shares.

On Steelcase's LinkedIn page, new products were advertised with consumers' recommendations. For example, Steelcase introduced a set of furniture and technology for videoconferencing room named "media:scape." A total of 18 professionals from various companies wrote recommendations for the product. For instance, "This is the best product for efficient communication, collaboration, and meeting!" (Said a sales manager at Felten-Stein, Luxembourg). "Nearly one

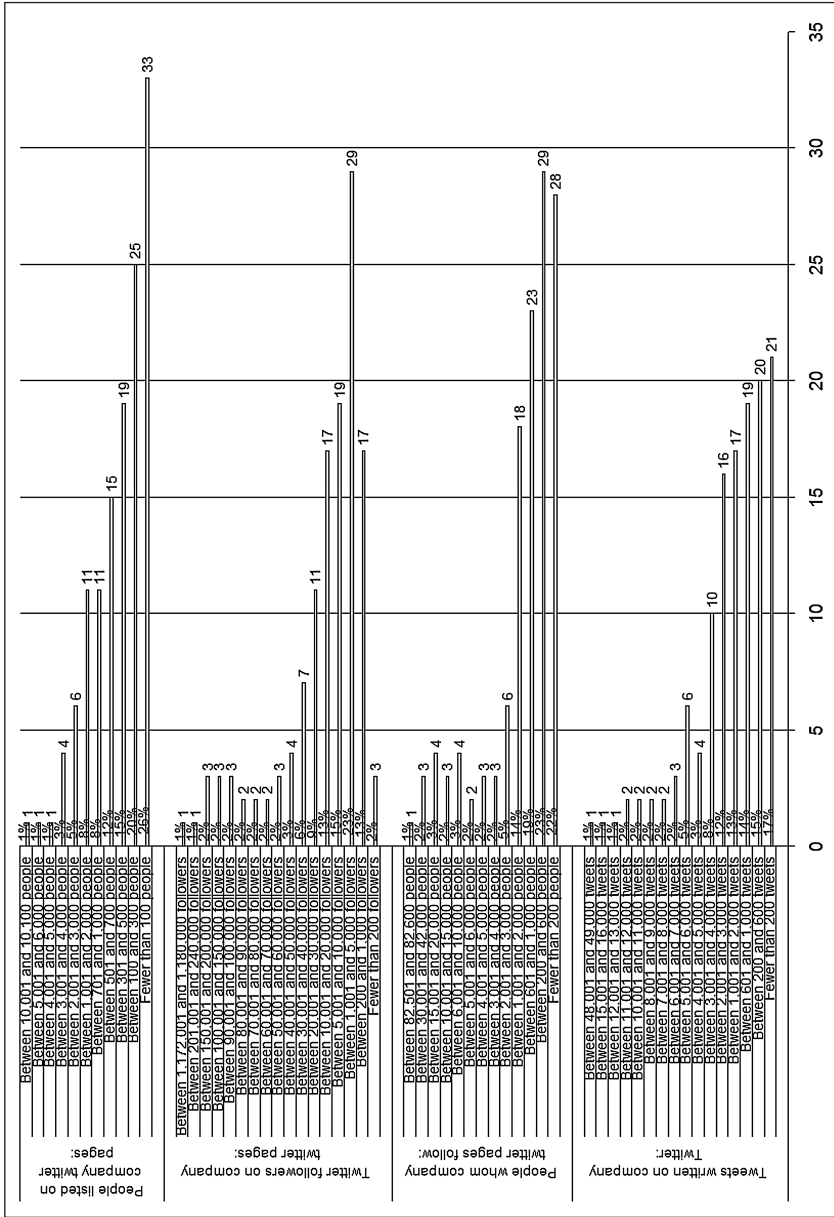


Figure 5. Consumer Communication Activities on Fortune 500 Twitter Pages (n=127).

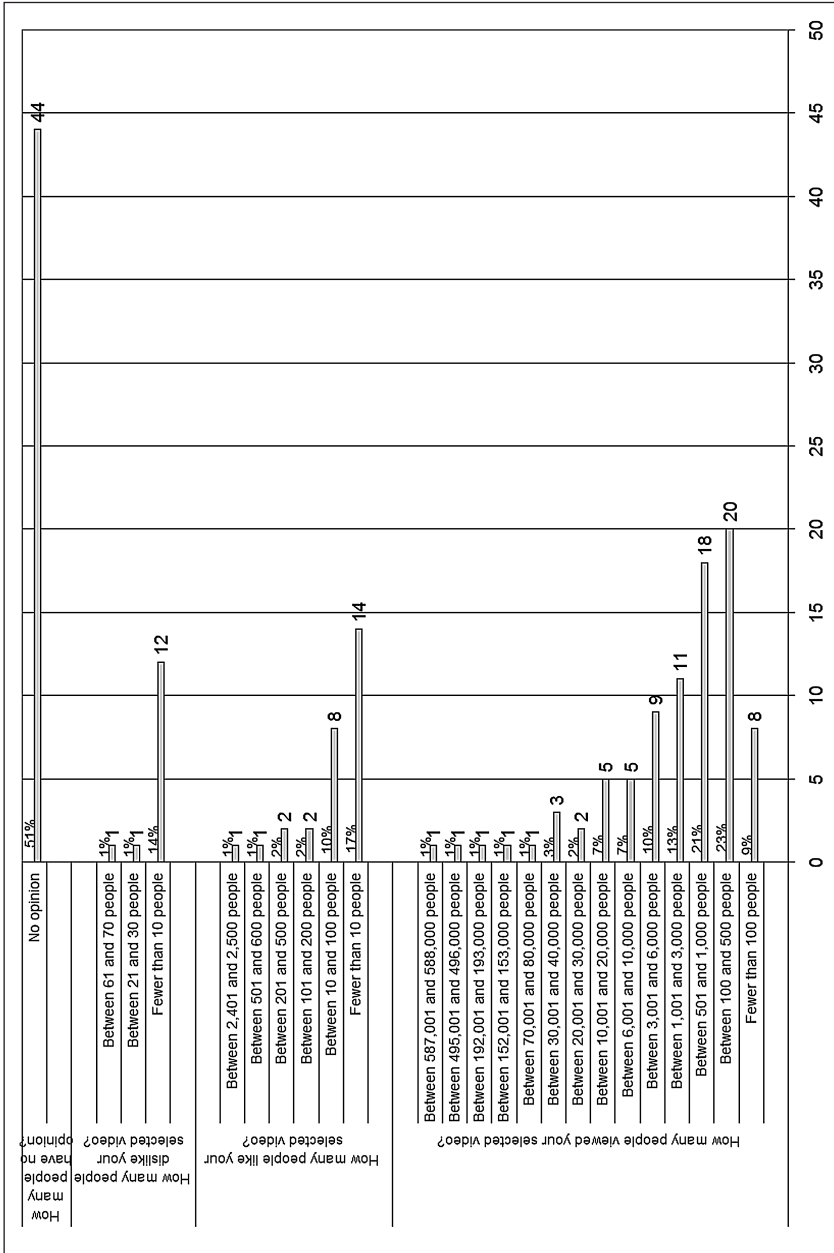


Figure 6. Consumer Communication Activities on Fortune 500 YouTube Sites (n = 86).

year working with the media:scape. This has greatly improved our productivity during meeting.” (A marketing communication manager at D2SI, Paris, France, stated). And “It [The media:space] definitely provides a wonderful opportunity for electronic interchange during a conference meeting. You need to see it...” (Recommended a Co-facilitator at GRAPE - Grand Rapids Area Professionals for Excellence, Michigan, U.S.A.).

Citibank’s Facebook site (<https://www.facebook.com/citi>) posted a headline message on November 6, 2012, stating that “Following Hurricane Sandy, Citi is trying to help by doing our part. Citi CEO Mike Corbat shares how Citi employees have joined in relief efforts.” The headline also provided a link to the bank’s blog site where readers can read Corbat’s entire speech on the topic. On the same day, the message received 562 likes and 29 positive and negative comments. Consumers’ positive comments said, “I love Citibank!” “This is what we like to see... please keep up the support!!!” “I love it; one bank that you can always count on—CITI.” “The best place to work.” In contrast, a few negative comments were complaining about Citi’s poor customer service. For example, one customer wrote a negative comment: “Don’t do business with Citi. I am very dissatisfied with Citi. I think they are the worst mortgage provider I have ever dealt with. I have just finished trying to refinance three of my properties with them for the second time. After dragging the process out since June, they have turned me down without a call or email...” In 45 minutes, one Citi’s Facebook administrator replied to this negative comment, “I apologize for your frustrations regarding this and want to help. Can you please send over a direct message, so I may assist you more securely? Thanks.”

Significant Industry Differences in Using Social Media

One-way ANOVA analysis was used to determine whether any significant differences exist in using social media among industry groups of the *Fortune* 500 e-commerce sites. As Table 2 illustrates, significant differences existed among different industry groups in using the following seven social media tools: Facebook, LinkedIn, mobile web service, suggestion box, webcast/webinar/podcast, Flickr, and Twitter.

Table 2
One-way ANOVA for Significant Differences Among Industry Groups

Category	Source	Sum of Squares	df	Mean Square	F	Sig.	
Facebook	Between Groups	4.690	6	.782	3.544	.002	**
	Within Groups	46.324	210	.221			
	Total	51.014	216				
LinkedIn	Between Groups	5.264	6	.877	5.839	.000	**
	Within Groups	31.556	210	.150			
	Total	36.820	216				
Mobile web service	Between Groups	6.524	6	1.087	9.199	.000	**
	Within Groups	24.822	210	.118			
	Total	31.346	216				
Suggestion box	Between Groups	2.867	6	.478	4.109	.001	**
	Within Groups	24.415	210	.116			
	Total	27.281	216				
Webcast/web-inar/ podcast	Between Groups	12.530	6	2.088	16.238	.000	**
	Within Groups	27.009	210	.129			
	Total	39.539	216				
Flickr	Between Groups	1.173	6	.196	2.418	.028	*
	Within Groups	16.984	210	.081			
	Total	18.157	216				
Twitter	Between Groups	3.617	6	.603	2.581	.020	*
	Within Groups	49.056	210	.234			
	Total	52.673	216				

* Significant at .05 level; ** significant at .005.

The post hoc test identified the significant differences among the following industry groups. First, both Group 2 (banks, finance, and insurance; 47%) and Group 3 (retail and wholesale; 38%) provided significantly more mobile web service on their sites than did 18% of the *Fortune 500* participating e-commerce sites (see Table 3). In addition, Facebook was available on significantly more sites of Group 3 (retail and wholesale; 90%) than 62% of the *Fortune 500* participation sites; in contrast, Group 6 (construction, engineering, mining, oil and gas; 38%) offered Facebook on significantly fewer sites in comparison with the *Fortune 500* and Group 3.

Table 3
Post Hoc Test for Significant Differences Among Industry Groups

Category	% of Fortune 500	vs	Industry Group	%	
Mobile web service	18%	vs	Group 2	47%	**
		vs	Group 3	38%	**
Facebook	62%	vs	Group 3	90%	*
			Group 6	38%	*
Flickr	9%	vs	Group 5	27%	*
LinkedIn	22%	vs	Group 2	44%	*
		vs	Group 5	46%	*
Suggestion box	15%	vs	Group 4	31%	*
Twitter	59%	vs	Group 3	83%	*
Webcast/webinar/podcast	24%	vs	Group 1	63%	*
		vs	Group 5	4%	
		vs	Group 7	0%	*
		vs	Group 6	0%	*

* Significant at .05 level; ** significant at .005.

Flickr was available on significantly more sites of Group 5 (computer, information, and telecommunication; 27%) when compared with 9% of the *Fortune 500* had as a whole. Moreover, significantly more sites of Group 2 (banks, finance, and insurance; 44%) and Group 5 (computer, information, and telecommunication; 46%) offered LinkedIn than did 22% of the *Fortune 500* sites. Next, while only 15% of the *Fortune 500* sites used suggestion box, 31% of Group 4 (transportation and utilities) had suggestion box on their sites, which was a significant difference.

Furthermore, Twitter was available on significantly more sites of Group 3 (retail and wholesale; 83%) than on 59% of the *Fortune 500* e-commerce sites. Finally, the post hoc test identified that while significantly more sites of Group 1 (manufacturing, food and beverages; 63%) used webcast, webinar, and podcast, significantly fewer sites of Group 5 (computer, information, and telecommunication; 4%), Group 6 (construction, engineering, mining, oil and gas; 0%), and Group 7 (healthcare and hospitality services; 0%) did so, when compared with 24% of the *Fortune 500* e-commerce sites.

Summary and Conclusions

The findings of the study indicated that the *Fortune 500* e-commerce sites chose to offer the following seven popular social media tools in an interconnected mold for consumer-to-consumer and consumer-to-company online interaction, communication, networking, and collaboration:

- Contact Us Email ($n=217$, 84%)
- Facebook ($n=217$, 62%)
- Twitter ($n=217$, 59%)
- YouTube ($n=217$, 40%)
- Webcast/webinar/podcast ($n=217$, 24%)
- LinkedIn ($n=217$, 22%)
- Blog ($n=217$, 20%)

Clearly, except for Contact Us email, around 40% to 60% of the *Fortune 500* e-commerce sites did not offer the popular social media such as Facebook, Twitter, and YouTube. Since these social media bring great opportunities for companies to engage with consumers, listen to them, and see what they would like and need in product and service development and improvement (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011; Mullaney, 2012; Walmsley, 2010), e-commerce administrators need to consider offering these tools if they are not available on their sites yet.

Moreover, 20% to 62% of *Fortune 500* e-commerce sites offered Facebook, Twitter, YouTube, Blog, and Flickr strategically for (a) introducing new products and services, (b) marketing and promoting existing products and services, and (c) posting consumer comments and current business issues. The review of consumer comments identified both positive and negative messages regarding companies' products and services. These consumer comments provide companies with valuable feedback and insights, which are consistent with the research findings of Gillette (2010), King (2011), and Mullaney (2012) such as (a) how pleased or upset consumers were with companies' products or services, (b) how attractive and engaging the product and service marketing and promotion were to the consumers, and (c) how actively the consumers participated online in generating and sharing new product and service ideas and suggestions for improvement.

E-commerce administrators also need to be aware that except for Facebook, Twitter, and YouTube, other social media tools such as blog, LinkedIn, and webcast/webinar/podcast were underused by both companies and consumers. This underuse may imply an opportunity for companies to grow their company presence on the Internet by using these currently underused social media tools. For example, Citibank's Facebook page provides a link to the bank's blog site where readers can read more articles about the bank. Similarly, on Steelcase's LinkedIn page, new products were advertised with consumers' recommendations.

Furthermore, one corporate strategic use of social media is to actively engage consumers in their product development, branding, pricing, and continuous improvement by analyzing consumers' continuous, real-time positive and negative comments on the social media. While 99% of the Facebook pages received comments from consumers, around half of the corporate LinkedIn, blogs, and Flickr pages had consumer comments. In addition, as the blog logs showed, many consumers viewed blogs. Similarly, Twitter logs also showed (a) large numbers of tweets posted on the company Twitter pages, (b) many people whom the company Twitter pages followed, (c) large number of followers active on the company Twitter pages, and (d) many people listed on the company Twitter pages. And YouTube sites also logged viewers' likes or dislikes about video clips on the company YouTube sites. All these consumers' continuous, real-time positive and negative comments, insights, and ideas on the social media formed a big, rich database from which companies can analyze and identify opportunities for product and service innovation and continuous improvement (King, 2011). However, e-commerce administrators need to realize that there is still much room for improvement since more than 50% of the consumers have not yet been actively engaged in using social media tools for posting ideas and comments.

In addition, significant differences existed among industry groups in using the following seven social media tools: Facebook, LinkedIn, mobile web service, suggestion box, webcast/webinar/podcast, Flickr, and Twitter. For instance, banks, financial and insurance companies, retailers and wholesalers provided significantly more mobile web service on their sites than other *Fortune 500* participating companies did. Facebook and Twitter were available on significantly more sites of retailers and wholesalers than other e-commerce sites. These findings are consistent with the research findings of Gillette (2010), King (2011) and Mullaney (2012) that consumer product and service companies seemed to be leaders in providing social media tools and engaging customers in their product development, branding, pricing, and continuous improvement. The findings of significant industry differences in using social media tools provide e-commerce administrators with valuable information for comparison, benchmarking, and continuous improvement of their strategic use of social media tools on their e-commerce sites.

Finally, the findings of the study also provide business communication and information technology educators with the empirical information that they need to keep their curricula current so that students will be able to learn to use social media tools properly and develop skills for effective communication in the Internet age. For example, business educators can illustrate Ford Social Networks' design concept of interconnecting related social media tools on the home page of Ford Social to meet the varied needs and preferences of consumers and to facilitate two-way communication via multimedia channels. Business educators can also emphasize that LinkedIn can be used not only for professionals' and college

students' networking but also be used to promote company products and services for professional consumers through other professionals' recommendations based on their experience with the products and services (see Figure 2 for examples). Business educators can also use the findings to show (a) how important the consumers' negative messages on the corporate social media could be for companies to continuously improve their product or service quality and their customer relationship, and (b) how quickly and professionally companies should respond to the negative messages.

Recommendations for Further Research

We recommend that a further study be conducted in two years among the *Fortune 500* corporate e-commerce sites for measuring the impact of social media on return on investment: how the use of social media tools on corporate e-commerce sites affects companies' annual revenue and profit.

In addition, we recommend that a comparative study of the strategic use of social media tools on corporate e-commerce sites be undertaken between *Fortune 500* companies and *Inc. 500* companies. The findings of this comparative research will be beneficial not only for large and small companies to learn from each other, but also for business and information technology educators to update their relevant courses and programs.

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