

MICROBLOGGING AT THE FORTUNE 50: AN EXAMINATION OF TWITTER IMPLEMENTATION AND USAGE

Case, Carl J.
St. Bonaventure University
ccase@sbu.edu

King, Darwin L.
St. Bonaventure University
dking@sbu.edu

ABSTRACT

The Web 2.0 is transforming how organizations communicate. One of the fastest growing aspects of this communication has been Twitter microblogging. This paper examines web pages of the 2009 Fortune 50 firms as listed on the CNN Money website to determine the implementation and usage of Twitter at these companies. Results indicate that the majority, 54%, of firms have a Twitter account. Moreover, 37% of these firms have multiple accounts. Although usage varies by industry sector, 85% of the companies utilizing Twitter use the technology for news distribution. Twitter is used to a much lesser extent for marketing/promotions, customer service, and human resources.

INTRODUCTION

Web 2.0 skills have been rated as one of the 10 hottest information technology skills for 2009 (Leung, 2009). The Web 2.0 is commonly associated with applications and technologies that allow users to create, edit, and distribute content (Laudon and Traver, 2009). This includes web-based communities, social networking sites, video-sharing sites, blogs, wikis, and so on (wikipedia, 2009).

Web 2.0 usage and expenditures have been steadily rising. For example, a 2009 *InformationWeek* 500 survey found that 82% of banking and financial service institutions are using wikis, blogs, and other social networking tools for internal collaboration and knowledge sharing (McDougall, 2009). Thirty-seven percent have deployed them for external collaboration and 27% encourage workers to use Web 2.0 technologies to increase productivity. Moreover, 78% of *InformationWeek* 500 companies use wikis and blogs to communicate with colleagues (Murphy, 2009). Only 42% use these technologies to collaborate with customers or suppliers, but that is an increase from 27% in 2007. In addition, according to Rosetta, a Princeton, NJ market research firm, 59 of 100 major retailers had Facebook accounts in September of 2008 (Choi, 2009). This was almost double the number four months earlier. In terms of expenditures, Forrester estimated that global internal enterprise Web 2.0 spending was \$384 million in 2008 and projected to be \$912 million in 2010 (Gibson, 2009). Gartner estimated annual spending on enterprise social software to be \$280.2 million in 2007, increasing to \$1.06 billion in 2012.

One aspect of the Web 2.0 that has been enormously popular is that of blogging. During 2007 alone, there were 175,000 new blogs each day (Miller, 2007). Moreover, Technorati, a blog search engine, indexed 133 million blog records from 2002 to 2008 (2009).

Interestingly, the introduction of microblogging has transformed the Web 2.0 into a instantaneous medium. Microblogging is a new form of blogging that allows users to send brief text updates (2009). Bloggers can use several services for the updates including instant messaging, e-mail, or Twitter (Beal, 2008). The posts are called microposts, while the act of using these services to update the blog is called microblogging. Social networking sites, such as Facebook, also use a microblogging feature in profiles. On Facebook this is called "Status Updates."

Twitter, launched in July 2006, is the dominant microblogging social network service. Southwest Airlines, for example, claims to have nearly one-half million followers on Twitter (Weber, 2009). Twitter is a free hosted microblogging service in which the person who creates the message is called the "author." The people who receive messages are called "followers" or subscribers. Twitter utilizes tweets, or status updates, that are a maximum of 140 characters. The user can include a profile picture, but only one on the user's page, and can restrict delivery to his/her circle of friends or, by default, allow anyone to access them. Between February 2008 and February 2009, there was a 1,841% increase in accounts, or approximately 8 million users (Puente, 2009). Between May 2008 and March 2009, twitter.com experienced a growth from 1.2 to 9.3 million unique U.S. visitors per month (Braiker, 2009; Schonfeld, 2009). According to comScore, a marketing research company, Twitter had 20 million unique visitors in the U.S. in June 2009, 34 times the 593,000 visitors number a year earlier (Ortutay, 2009).

As Twitter has risen in popularity, a weakness was exposed on August 6, 2009 when a hacker was able to shut down Twitter at 9 a.m. EST for a few hours (Ortutay, 2009). The outage was a result of a denial-of-service attack.

Users include government agencies, celebrities, and corporations. For example, the U.S. Centers for Disease Control and Prevention have been using Twitter to provide updates regarding the H1N1 situation (CDC, 2009). The U.S. Army utilizes Twitter to recruit soldiers (redOrbit, 2009). Celebrity Twitters such as Britney Spears, Kayne West, and Barack Obama have even reportedly hired ghostwriters to supply their tweets because they are so busy.

Dell posts discount codes for online purchases on Twitter. Shoe retailer Zappos.com periodically gives passes for free overnight shipping through Twitter. Kmart, Sears, and Dell use Twitter to answer customer service questions. In addition, Dell made \$1 million in revenue through sales alerts in 2008 (eweek, 2009).

JetBlue uses Twitter as part of its corporate communications function in which microbloggers are considered citizen journalists (Wagner, 2009). Their primary use is to watch and listen to blogs for market research purposes. Zaphos uses Twitter to make personal connections among employees and between the company and its customers. Employees use it to organize meet-ups outside of work and customers can use Twitter to get a feel for corporate culture.

At IBM, 53,000 employees use a homegrown social networking tool named Beehive (Gibson, 2009). It is being tied to additional Web 2.0 tools including blogs, wikis, and its Twitter-like application BlueTwit, which has over 2,000 users.

Twitter can be used to reduce company email, improve work and project tracking, and keep employees connected (Rapoza, 2009). Because Twitter is a public forum and an organization

may not want the competition to know about research ideas, salesperson travels, and so on, several products have been developed for internal access-controlled business use. Socialcast, available at www.socialcast.com, is a tool in which employees can choose to follow other employees, send ideas, and ask questions. Socialtext, available at www.socialtext.com, includes wiki capabilities and blogs. The Twitter-like aspect is called Signals. Yammer is also like Twitter for business (Wagner, 2009). The security scheme is simple in which users confirm accounts by using a corporate email address and can only view messages (called yams) from other users registered from the same email domain. Yams, however, can be any length and can include images and other multimedia content. The basic service is free but there are premium add-ons starting at \$1 per user per month. Alcatel-Lucent has 1,000 users on Yammer and has 200 posts each day.

To help better utilize the Web 2.0, several studies have been initiated. One study empirically investigated factors influencing user adoption of Internet social networks (Sledgianowski and Kulviwat, 2009). The Social Network Site Adoption model was introduced to examine the effects of perceptions of normative pressure, playfulness, critical mass, trust, usefulness, and ease of use on usage intention and actual usage of sites. Results indicated that all of the determinants had a significant direct effect on intent to use, with perceived playfulness and perceived critical mass the strongest indicators. Intent to use and perceived playfulness had a significant effect on actual usage.

Another study utilized social network analysis as a technique to measure and analyze social networking. Network analysis was employed to better understand child welfare organizations in Baltimore (Liebowitz and Liebowitz, 2008). Social network analysis is a technique that can assist in identifying structural holes in organizations, community building, relationships between junior and senior employees, diffusion of innovation, and knowledge flows within and between individuals and departments.

The US military has also launched a study on the use of social networking web sites in an effort to design new policies on how the military should use them (Barnes, 2009). Social networking sites have always been banned from government computers but the Marines are allowed access to sites from their own computers or recreational computers provided on military bases. Rules are needed to balance the advantages of using speedy communications such as Twitter with the risks associated with protecting sensitive data. The use of social networking sites could expose defense computer networks to malicious software and create possible cyber-security problems.

Given the recent publicity with regard to microblogging, this study was undertaken to determine its usage in the 50 largest firms. Do these firms use Twitter and if yes, how? In addition, this study examined which industry sectors do and do not utilize Twitter.

RESEARCH DESIGN

This study utilized the CNN Money website (money.cnn.com, 2009) list of the Fortune 1000 firms to obtain the 2009 Fortune 50 companies and identify each company's industry sector (Appendix A). The company website was then examined to determine if and how Twitter was utilized. In addition, if no Twitter capability was found on the company website, twitter.com was used to search for any accounts associated with the company.

RESULTS

A review of the Fortune 50 firms found that 54%, or majority, of companies utilize Twitter (Table 1). Forty-six percent do not have a Twitter link.

TABLE 1
Overall Twitter Usage

	Percentage	Count
Companies that utilize Twitter	54%	27
Companies that do not have a Twitter link	46%	23
Total	100%	50

The industry sectors with the most firms in the Fortune 50 are healthcare (7 firms), petroleum refining (6 firms), general merchandiser/retailer (6 firms), commercial bank (6 firms), computer/IT (4 firms), insurance (4 firms), and food & drug (4 firms). Table 2 examines Twitter participation by industry sector. All sectors, with the exception of aerospace & defense, household & personal products, food product, chemicals, and entertainment, had a least one firm utilizing Twitter. The computer/IT, telecommunications, diversified financials, freight, and construction sectors had 100% participation. General merchandiser/retailer, commercial bank, insurance, food & drug, and motor vehicles & parts sectors had 50% or greater participation. The healthcare and petroleum refining sectors had 33% and 43% participation, respectively.

TABLE 2
Participation By Industry Sector

Industry Sector	Number of Firms in Fortune 50	Percentage that Use Twitter
Healthcare	7	42%
Petroleum Refining	6	33%
General Merchandiser/Retailer	6	66%
Commercial Bank	6	50%
Computer/IT	4	100%
Insurance	4	75%
Food & Drug Store	4	50%
Telecommunications	2	100%
Motor Vehicles & Parts	2	50%
Aerospace & Defense	2	0%
Diversified Financials	1	100%
Freight	1	100%
Construction	1	100%
Household & Personal Products	1	0%
Food Product	1	0%
Chemicals	1	0%
Entertainment	1	0%

Usage can be categorized into four types: news, marketing/promotions, customer service, and human resources. Results indicate that 85% of the firms use Twitter to distribute news (Table 3). Moreover, 30% use Twitter for marketing/promotions. The least used applications are customer service (19% of firms) and human resources (11% of firms).

TABLE 3
Usage By Type

Type	Percentage	Count
News	85%	23
Marketing/Promotions	30%	8
Customer Service	19%	5
Human Resources	11%	3

Industry sector was next segmented by usage type to determine how each sector utilizes Twitter. Table 4 illustrates the number of firms within each industry sector that use Twitter for each purpose. Results indicate that the most diverse sectors in terms of usage type are general merchandiser/retailer, commercial bank, computer/IT, and food & drug. Each of these sectors had three types of uses. For example, three general merchandiser/retailer firms use Twitter for news, two use Twitter for marketing, and two use Twitter for service. The healthcare, motor vehicles & parts, freight, and construction sectors had two types of uses. Finally, news was the only purpose for the petroleum refining, insurance, telecommunications, and diversified financials sectors.

TABLE 4
Number of Firms in Industry Sector Per Usage Type

Industry Sector	News	Marketing	Service	HR
Healthcare	3	1		
Petroleum Refining	2			
General Merchandiser/Retailer	3	2	2	
Commercial Bank	1		2	1
Computer/IT	4	2	1	
Insurance	3			
Food & Drug Store	1	1		1
Telecommunications	2			
Motor Vehicles & Parts	1	1		
Diversified Financials	1			
Freight	1			1
Construction	1	1		

Ten, or 37%, of the Fortune 50 firms utilizing Twitter have multiple Twitter accounts. These firms are listed in Table 5. Wal-Mart has accounts for associates while AT&T, Hewlett-Packard, and International Business Machines have a corporate focus. Dell, Microsoft, and Verizon appear to be product-oriented and United Parcel Service has accounts for employee communications.

TABLE 5
Companies With Multiple Twitter Accounts

Company	Examples
AT&T	Consumer, Community, Small Business, Corporate, Yellow Pages, Enterprise and AT&T News
Citigroup	Citigroupjobs, CitiandDallas
Dell	Special offers, products, community
Hewlett-Packard	Official News, HP Store, Imaging and Printing Group

Company	Examples
International Business Machines	Partner World, Partner Community, Virtual Innovation Center, Virtual Loaner Program, Websphere, Developer Works, Smarter Planet
Microsoft	Corporate communications, products such as Windows
United Health Group	UNH Innovates, newsroom, health, health group
United Parcel Service	UPS news, employee communications, jobs
Verizon Communications	Residential, Wireless, Business, Corporate, and Breaking News
Wal-Mart	Accounts for associates

Table 6 provides a sample of Twitter descriptions found on four of the company websites. Wal-Mart uses Twitter to provide news about their corporate culture. Bank of America focuses on service issues, while reassuring privacy. State Farm promotes their community service and Dell is building a community and selling products.

TABLE 6
Sample of Company Twitter Descriptions

Company	Twitter Description
Bank of America Corp.	We'll be listening, responding and sending updates to help customers with unresolved service issues. And while we Twitter, you don't have to worry about your privacy. David Knapp, Bank of America's Senior Vice President of National Customer Experience, will be monitoring the Twitter conversation, and no account information will be shared in the Tweets. To protect your privacy, never share account information in unsecured locations. It's another way we're working to improve our service and availability to customers.
Dell	Now you can also get great deals from Dell, stay current with what's happening at Dell, and connect with other Dell fans and employees through Twitter!
State Farm Insurance	Connect with and see what State Farm is doing in your community
Wal-Mart	All around the world, we help our customers save money so they can live better. It's engrained in our culture and is our focus for building relationships. And that includes online, too. Our twitterers will tweet their unedited perspectives of what they're working on, the unique and fun aspects of our culture, the responsibility that comes with working here, and more.

CONCLUSIONS AND FUTURE RESEARCH

Results indicate that Twitter microblogging has been implemented at the majority of the Fortune 50 firms. Fifty-four percent of firms have accounts. In addition, implementation varies by industry sector. All sectors, with the exception of aerospace & defense, household & personal products, food product, chemicals, and entertainment, had a least one firm utilizing Twitter. Moreover, all six firms in the computer/IT and telecommunication sectors utilize Twitter. Finally, ten, or 20%, of the Fortune 50 firms have multiple Twitter accounts.

In terms of usage, the most common use, by 85% of the firms, was to distribute news. Marketing/promotions (30% of firms), customer service (19% of firms) and human resources (11% of firms) lagged far behind news distribution. In addition, results indicate that the most diverse sectors in terms of usage type are general merchandiser/retailer, commercial bank, computer/IT, and food & drug. Each of these sectors had three types of uses.

When examining company descriptions for their Twitter activity, no uniformity was found. For example, Wal-Mart uses Twitter to provide news about their corporate culture while Bank of America focuses on service issues and State Farm notifies users about its community service.

There are several important implications from the study. One finding is that the largest firms apparently find value in microblogging. The majority of these companies utilize Twitter and 37% of the Twittering firms have multiple accounts. For firms such as Bank of America and International Business Machines, the benefits relate to customer service. Dell, on the other hand, leveraged Twitter sales alerts to generate one million dollars in revenue in one year.

A second implication is that industry sector is not a determinant with regard to participation. The only multi-company Fortune 50 sector that had participation by all firms was the computer/IT sector. It could be hypothesized that given these firms' specialization in and knowledge of information technology, it would be easier for each to implement, monitor, and understand the benefits of microblogging. International Business Machines has even begun utilizing BlueTwit, a second microblogging tool.

A third implication is that several Fortune 50 firms are either skeptical regarding microblogging and/or have not found a reason to implement. It is possible that these firms may feel that microblogging is a distraction and reduces employee productivity. Moreover, the firm may not feel the bandwidth drain is worth potential benefits. In addition, the firm may find it challenging to police communications and may fear litigation in the event of negative or inaccurate information being released.

A final implication is that while news is the most common usage type, other uses such as service and marketing/promotions have the greatest potential for growth. The nature of Twitter's real-time communication could be used, for example, to quickly resolve customer problems and spur impulse purchases.

The limitations of this study are primarily a function of each firm's website. If a firm utilizes Twitter but does not indicate this usage on their home page (or search box), then it was not counted. As a result, the participation may be higher than the 54% found in this study. This weakness was partially mitigated in that twitter.com was also used to determine if the firm had a Twitter account. Future research needs to examine the usage volume by account and to explore if microblogging is a fad or will become an important facet of corporate communications.

The study does, however, begin to clarify that extent of Twitter microblogging at the largest firms. Overall findings suggest that the majority of the Fortune 50 firms have implemented Twitter accounts and use them for a variety of purposes.

REFERENCES

- Barnes, Julian E. (2009). "Study To Help Military Craft Policies for Social Web Sites." *The Virginian-Pilot*, August 5, 6.
- Beal, Vangie (2008). "Technology Terms to Know For 2009." October 24, http://www.webopedia.com/DidYouKnow/Internet/2008/terms_to_know_2009.asp
- Braiker, Brian (2008). "Twitter Nation." July 9, <http://www.newsweek.com/id/145216>
- CDC (2009). "2009 H1N1 Flu (Swine Flu)." Centers for Disease Control and Prevention, September 18, <http://www.cdc.gov/H1N1FLU/>
- Choi, Candice (2009). "Make Friendship Pay: Get Twitter, Facebook Deals." *The Times Herald*, April 17, A-9.
- CNN Money (2009). "Fortune 1000." October 10, http://money.cnn.com/magazines/fortune/fortune500/2009/full_list/
- Laudon, Kenneth C. and Carol Guercio Traver (2009). *E-commerce*. 5th edition, Upper Saddle River, NY: Prentice Hall.
- eweek (2009). "10 Things You Should Know Now About Web 2.0." January 5, <http://www.eweek-digital.com/eweek/20090105/templates>
- Gibson, Stan (2009). "Web 2.0 Tools Gain Enterprise Acceptance." *eweek*, Volume 26 Issue 7, 16-18.
- Leung, Linda (2009). "10 Hot Skills for 2009." Globalknowledge.com <http://www.globalknowledge.com/training/generic.asp?pageid=2321&country=United+States>
- Liebowitz, Jay and Kenneth David Liebowitz (2008). "Social Networking in Baltimore: Connection Versus Collection." *Journal of Computer Information Systems*. Volume 49, Number 1, 2-9.
- McDougall, Paul (2009). "Banks Build Out Their Online Grapevines." *Informationweek.com*, Issue 1241, 80.
- Microblogging (2009). "Microblogging." October 10, <http://en.wikipedia.org/wiki/Microblogging>
- Miller, Rick (2007). "It's Time to Get Social-Media Saavy." *PRweek*, Volume 10 Issue 13, 8.
- Murphy, Chris (2009). "500 Relentless Innovation." *Informationweek.com*, Issue 1241, 21-29.
- Ortutay, Barbara (2009). "Hacker Creates Traffic Jam on Twitter." *The Virginian-Pilot*, August 7, 7.
- Puente, Maria (2009). "Relationships in a Twist Over Twitter." *USA Today*, April 15, 2C-2D.
- Rapoza, Jim (2009). "Social Skills." *eweek*, Volume 26 Issue 10, 14-20.
- redOrbiit (2009). "Facebook, Twitter Used for US Military Recruiting." redOrbit – Science, Space, Technology, Health News and Information. May 6,

http://www.redorbit.com/news/technology/1681228/facebook_twitter_used_for_us_military_recruiting/

Sledgianowski, Deb and Songpol Kulviwat (2009). "Using Social Network Sites: The Effects of Playfulness, Critical Mass and Trust in a Hedonic Context." *Journal of Computer Information Systems*, Volume 49, Number 4, 74-83.

Schonfeld, Erick (2009). "Boom! Twitter More Than Doubles Unique U.S. Visitors To 9.3 Million in March." April 15, <http://www.techcrunch.com/2009/04/15/boom-twitter-more-than-doubles-unique-visitors-to-93-million-in-march/>

Technorati (2009). "State of the Blogosphere/2008." October 10, <http://technorati.com/blogging/state-of-the-blogosphere/>

Wagner, Mitch (2009). "Opportunity Tweets." *Informationweek.com*, Issue 1232, 24-26.

Web 2.0 (2009). "Web 2.0." October 10, http://en.wikipedia.org/wiki/Web_2.0

Weber, Harry R. (2009). "Low-Cost Airlines All A-Twitter With Customers." *The Times Herald*, October 18, B-6.

APPENDIX A – FORTUNE 50 LIST AND TWITTER ACCOUNTS

Rank	Firm Name	Twitter Account(s)
1	Exxon Mobil	
2	Wal-Mart Stores	various
3	Chevron	Chevron_JustinH
4	ConocoPhillips	Conocophillips
5	General Electric	GE_Reports
6	General Motors	
7	Ford Motor	Ford
8	AT&T	Consumer, Community, Small Business, Corporate, Yellow Pages, Enterprise and AT&T News
9	Hewlett-Packard	hpnews, hpdirect, hp_ipg, hpcheer
10	Valero Energy	
11	Bank of America Corp.	BofA_help
12	Citigroup	CitigroupJobs, CitiandDallas
13	Berkshire Hathaway	BRK_B
14	International Business Machines	ibmpw, ibmsaas,ibm_soa_bp, ibmvic. ibmvlp, ibmwebspherebps, mikeriegel, IICAustin, IICChicago, IICDallas, IBMSanMateo, developerworks, sandy_carter, smarterplanet
15	McKesson	McKesson_HIT
16	J.P. Morgan Chase & Co.	
17	Verizon Communications	Residential, Wireless, Business, Corporate, and "Breaking News"
18	Cardinal Health	
19	CVS Caremark	
20	Procter & Gamble	

21	UnitedHealth Group	UNH_Innovates, UNHnewsroom, UnitedHealth, UnitedHealthGrp
22	Kroger	KrogerCo
23	Marathon Oil	
24	Costco Wholesale	
25	Home Depot	HomeDepot
26	AmerisourceBergen	
27	Archer Daniels Midland	
28	Target	
29	Johnson & Johnson	
30	Morgan Stanley	
31	State Farm Insurance Cos.	StateFarmIns
32	WellPoint	
33	Dell	various
34	Boeing	
35	Microsoft	various
36	Walgreen	Walgreens
37	United Technologies	
38	Dow Chemical	
39	MetLife	
40	Goldman Sachs Group	
41	Sunoco	
42	Wells Fargo	Ask_WellsFargo
43	United Parcel Service	UPSJobs
44	Caterpillar	CaterpillarInc
45	Medco Health Solutions	Medco
46	Pfizer	Pfizer_news
47	Lowe's	Lowes, LowesPromos
48	Time Warner	
49	Sears Holdings	searsholdings
50	Safeway	