

Twitter: Tweets for Analysts

Introduction

The use of social media has spread over the past two decades, from a few users of My Space to millions of users on social media sites like Facebook, Twitter, Google+, Reddit, Tumblr, Blogger, Pinterest, Flickr, Yelp, LinkedIn and more. This is not a phenomenon just for the young – about half of Twitter users are over age 35, although there is evidence that the average age for Twitter users is decreasing.¹ Instructors may wish to make use of their students' use of social media by developing assignments requiring the use of social media. Twitter has been used and studied as a tool in financial decision making. This article shares an assignment used by the author in a Business Finance core class.

Twitter in Higher Education

Twitter has been used in a variety of ways in higher education. Tanya Joosten describes strategies and best practices for using social media in general and Twitter in particular in the classroom. The author has a wide range of suggestions, from using Twitter to introduce students to each other on the first day of classes to using tweets for assessment purposes.² In a 2014 article, Stephen Jacquemin, Lisa Smelser, and Melody Bernot discuss using Twitter to disseminate course content and promote discussion among students. They found that Twitter worked best for informal discussion only, in particular, relating course content to current news.³ Reynol Junco, Michael Elavsky and Greg Heiberger analyzed the relationship between student engagement and collaboration and their impact on learning outcomes. In one class Twitter access was voluntary and was used sporadically by the instructor, while Twitter was required and used frequently in a

second class. The authors found improved student learning when the instructor used Twitter specifically to achieve desired learning outcomes and required Twitter use. The authors describe best practices for using Twitter in educationally relevant and productive ways, including a high level of faculty participation in tweeting and a pedagogical basis for incorporating Twitter into coursework.⁴ A separate study conducted by Junco, Greg Heiberger, and E. Loken, looked at the impact of Twitter use on student engagement and grades, finding that the group using Twitter as a classroom tool had greater engagement and higher semester grades than the control group.⁵

Chris Evans studied Twitter interactions between students and tutors, finding a positive correlation between the degree of Twitter usage and student engagement in university activities. However, Twitter usage did not affect interpersonal relationships between students and tutors or impact class attendance.⁶ A 2014 study of K-16 educators found that the use of Twitter facilitated a collaborative community, combated feelings of isolation and was particularly useful in professional development for faculty. Another study that same year showed that in an online graduate class Twitter improved access to information, communication, class engagement and general feedback.⁷ A survey of graduate and undergraduate students found that students enjoyed being consumers of tweets but seldom retweeted or replied. The authors concluded that the informal nature of Twitter could make it difficult to use in more structured educational settings.⁸ Eva Kassens-Noor looked at Twitter as a tool for active, informal, outside-of-class learning and a 2012 study tested Twitter usage on student memory of course content, finding that students who received a daily informative tweet about class content remembered course topics better in a testing situation.⁹

The applicability of Twitter in business classes is straightforward. In addition to uses in a finance class as described later in this paper, Twitter could easily be used for marketing assignments (evaluate a company's existing Twitter marketing strategies or recommend how a company could use Twitter), in management (evaluate a firm's tweets about its executives and their leadership role), in information management (evaluate a company's use of technology through its tweets), or in accounting (use a company's tweets about its financial statements).¹⁰ There are numerous examples of scholarship on Twitter use as a learning tool in a variety of non-business disciplines. For example: using Twitter to re-enact historic battles and demonstrate how Twitter could be used as source material for historians; using Twitter in medical education and for promoting medical research, including the mechanics of using Twitter; using Twitter to illustrate political change as it related to Arab Spring in a government course; and using Twitter to promote information literacy in a library program.¹¹

Twitter in Financial Analysis

Created in 2006, Twitter allows users to send short 140 character messages or tweets to "followers." As of 2014, the site had 500 million users, about half of whom were active.¹² Many large companies have twitter accounts and encourage their customers to "follow" them. One study that year found that social broadcasting has facilitated open access to information globally. In particular, voluntary information sharing by Twitter users, retweeting (re-sending an existing tweet) is higher when there is a weaker relationship between the original tweeter and the retweeter.¹³ Andrew Whinston and Huaxia Rui looked at Twitter and YouTube as vehicles for "ordinary" people to access and publish content to a worldwide audience. The authors noted that the social

connection among people was the innovation provided by social media, rather than the technology used. In their model time was money since the supply of content and supply of attention involved an investment of time. In sufficiently large populations, users self-selected into a stable set of content consumers or content users, suggesting that social media is sustainable.¹⁴

Twitter has business uses as well. Timm Springer and Isabelle Welpé studied microblogging forums where trading ideas and other stock-related information were exchanged. Looking at 250,000 stock-related daily tweets, the authors found that the sentiment in the tweets and retweets, whether positive or negative, was associated with positive or negative abnormal returns for the subject stock. Increased tweeting was also associated with a higher next-day trading volume in that stock. Users who tweeted above average investment advice were retweeted more frequently and had an above average number of followers.¹⁵ A 2013 article explored the problem of information asymmetry, a situation where some investors have access to more information than other investors. The greater the information asymmetry, the greater is the potential and actual adverse impact on market liquidity. In particular, market illiquidity can adversely affect small firm stock prices. The authors found that firms can reduce information asymmetry by more broadly distributing their news. The paper looks at the impact of using Twitter to send out links to company press releases.¹⁶ The use of Twitter was associated with lower bid-ask spreads, which is consistent with a reduction in information asymmetry.¹⁷

The Assignment

While not all students are social media junkies, an assignment using Twitter would appeal to students who regularly used social media, and might intrigue the ones

who had yet to tweet. In Business Finance, a core course required of all business majors, students were assigned a unique publicly-traded company at the beginning of the semester. Students were required to complete a series of short and long assignments using their company information, culminating in a comprehensive discounted cash flow and comparable multiples valuation of their company by the end of the semester. The Twitter assignment had the following learning objectives:

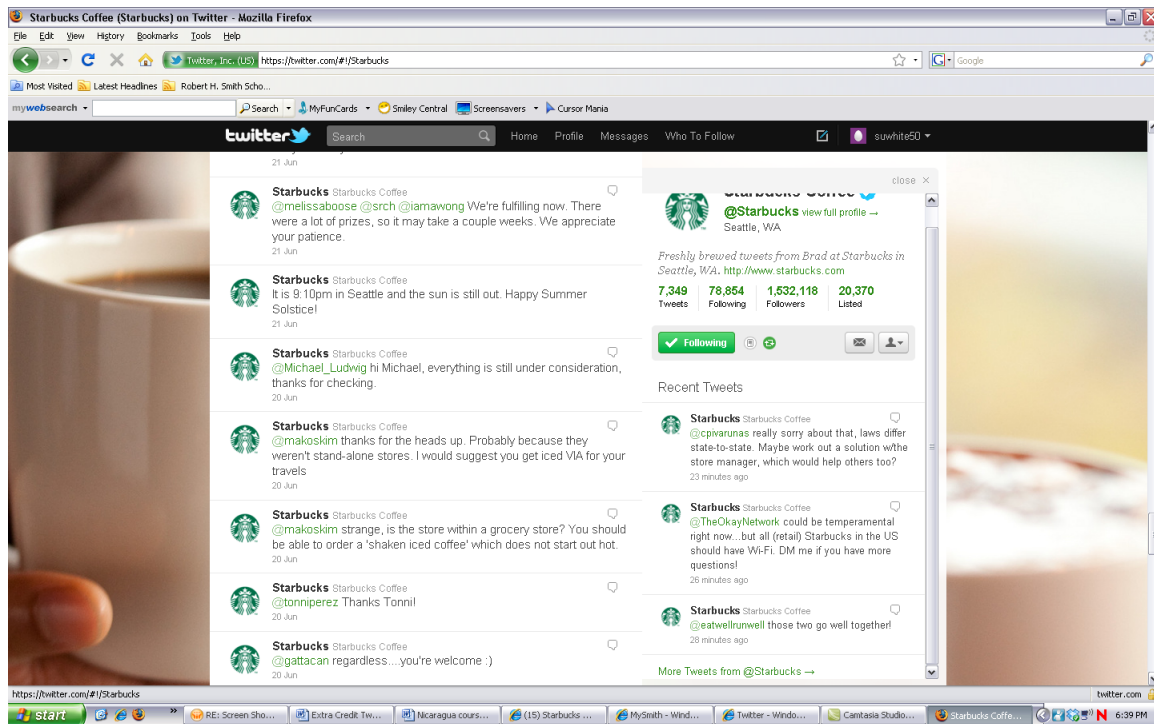
- Determine what information the company considered was important.
- Relate company-provided information to finance valuation principles
- Use company-provided information to speculate about the information's impact on a firm's financial statements.

This was a low stakes assignment, counting for 10 points out of 1,000 course points.

Follow Your Company

Students were asked to do the following: Sign up for a Twitter account at twitter.com. Then, "follow" their assigned company. If the company was not on Twitter, they were assigned a new company. Students chose a tweet or several tweets that mentioned something newsworthy about the company. For example, the sample provided in the assignment directions looked at Starbucks' Twitter feed and chose tweets about Via instant coffee.¹⁸ Next, students found a news story relating to the subject of the tweet.

Figure 1 – Starbucks Twitter Feed, with tweets about Via instant coffee



Example news articles relating to Starbucks' Via product tweets included a 2010 article by Gemma Charles titled "Kraft Instant to Take on Starbucks Via" published in *Marketing*. This article looks at Kraft Food's launching of its premium instant coffee product under the Kenco Brand in the United Kingdom, which was designed to compete with Starbucks Via Ready Brew coffee.¹⁹ Another article was from *Beverage Industry* and titled "Starbucks Expands Via; Debuts New Seattle's Best Logo." (2011). *Beverage Industry*. 101:6, 9-11. This article reports on Starbucks' expansion of its distribution of Via Ready Brew coffee, along with the introduction of However-You-Want-It Frappuccino blended drinks in the U.S.²⁰

After finding articles related to the firm's tweets, students wrote a paragraph relating what they read on Twitter and their selected news articles to information in the textbook. For example, the Starbucks sample assignment paper talked about the impact

that increasing revenues from the introduction of Via coffee would have on Starbucks' income statement and ratios such as profit margin, asset turnover, return on equity and return on assets. If other firms like Kraft saw and imitated Starbucks, then Starbucks' profit margins could erode. In conclusion, Starbucks needed to continue to introduce new – and successful – products to grow the firm and maintain its competitive advantage. Finally, students were asked to go to the course discussion board, and post a comment answering one of the following questions: Does Twitter provide useful information about a company? Are there other social media that could provide information about your company? If so, what?²¹ Then, students posted a comment in response to someone who has commented on the discussion board.

Grading Rubric

The Twitter project uses a simple grading rubric:

	Excellent (10 points)	Good (7 points)	Needs Improvement (5 points)
Twitter assignment paragraph (minimum 100 words)	Relates information in the chosen article to textbook information; cites textbook reference	Article relates to valuation, but is not backed up by finance theory	Assignment is missing information about tweets or articles and does not relate content to finance theory
Response to student posts (minimum 25 words)	Consistent with finance theory	Does not relate to finance theory	Response is missing.

Pedagogical Reflections

In a 2014 exit survey of all graduating undergraduates at the University of Maryland, business students said they wanted more real world examples used in their classes and in finance in particular.²² A finance introductory course by necessity focuses on core concepts that students need as background for their future business studies, such

as time value of money, financing, capital budgeting, and financial statement analysis. The author developed the assignment as a way to demonstrate to students that finance is used extensively outside the classroom. Companies disseminated financial information in a much more compact way than finance textbooks can. One of the goals of the assignment was to make students more aware of the underlying basis in finance theory behind information disseminated by firms. Students were asked to map course concepts onto company tweets. This kind of exercise is more difficult than it sounds. It forces students first to state, and more importantly, understand finance concepts. Then, they must interpret a short message sent by a company and relate it to those concepts. The desired result is deeper thinking about course concepts and reinforcement of those concepts. The author did not obtain formal feedback from students about the efficacy of the Twitter assignment. Informal student feedback was positive, with students stating that once they knew what information the firm considered important, they could focus on that in their analysis. Students who did not previously have Twitter accounts said they appreciated being exposed to a different social media venue than they were accustomed to. Comments via email included:

“I didn’t have a Twitter account before doing this assignment. I was surprised at how much my company tweeted. It helped with the discounted cash flow analysis we did later.”

“My company mostly tweeted marketing things, but even these contained information about their finances.”

Social media can be incorporated into student assignments in a meaningful way, allowing students to relate what they see on the Internet to textbook and lecture material. Twitter,

in particular, contains company information that can be used to facilitate a financial analysis.

¹ *Pingdom Tech Blog*, “Report: Social Network Demographics in 2012,” August 21, 2012, <http://royal.pingdom.com/2012/08/21/report-social-network-demographics-in-2012/> (accessed December 3, 2014).

² Tanya Jossten, *Social Media for Educators: Strategies and Best Practices* (San Francisco, CA: Jossey-Bass, 2012).

³ Stephen Jacquemin, Lisa Smelser and Melody Bernot, “Twitter in the Higher Education Classroom: A Student and Faculty Assessment of Use and Perception,” *Journal of College Science Teaching* 43, no. 6 (2014): 22-27.

⁴ Reynol Junco, Michael Elavsky and Greg Heiberger, “Putting Twitter to the Test: Assessing Outcomes for Student Collaboration, Engagement and Success,” *British Journal of Educational Technology* 44, no. 2 (2013): 273-287.

⁵ Reynol Junco, Greg Heiberger and E. Loken, “The Effect on Twitter on College Student Engagement and Grades,” *Journal of Computer Assisted Learning* 27, no. 2 (2011): 119-132.

⁶ Chris Evans, “Twitter for Teaching: Can Social Media Be Used to Enhance the Process of Teaching?” *British Journal of Educational Technology* 45, no. 2 (2014): 902-915.

⁷ Jeffrey Carpenter and Daniel Krutka, “How and Why Educators Use Twitter: A Survey of the Field,” *Journal of Research on Technology in Education* 46, no.2 (2014): 414-434; T. Scott Bledsoe, Dave Harmeyer, and Shuang Wu, “Utilizing Twitter and #Hashtags Toward Enhancing Student Learning in an Online Course Environment,” *International Journal of Distance Education* 12, no. 3 (2014): 75-83.

⁸ Meng-Fen Lin, Ellen Hoffman, and Claire Borengasser, "Is Social Media too Social for Class? A Case Study of Twitter Use," *Tech Trends: Linking Research & Practice to Improve Learning* 57, no. 2 (2013): 39-45.

⁹ Eva Kassens-Noor, "Twitter as a Teaching Practice to Enhance Active and Informal Learning in Higher Education: The Case of Sustainable Tweets," *Active Learning in Higher Education* 13, no. 1 (2012): 9-21; Stephen Blessing, Jennifer Blessing, and Bethany Fleck, "Using Twitter to Reinforce Classroom Concepts," *Teaching of Psychology* 39, no. 4 (2012): 268-271.

¹⁰ On marketing assignments, see Apostolos Sarlis, Damianos Sakas, and D. Vlachos, "Twitter's Tweet Method of Modeling and Simulation," *AIP Conference Proceedings* 1644, no. 1 (2015): 339-347.

¹¹ Brian McKenzie, "Teaching Twitter: Re-enacting the Paris Commune and the Battle of Stalingrad," *History Teacher* 47, no. 3 (2014): 355-372; Sarah Forgie, Jon Duff, and Shelley Ross, "Twelve Tips for Using Twitter as a Learning Tool In Medical Education," *Medical Teacher* 35, no. 1 (2013): 8-14; Alasdair Blair, "Democratising the Learning Process: The Use of Twitter in the Teaching of Politics and International Relations," *Politics* 33, no. 2 (2013): 135-145, Paige Alfonzo, "Using Twitter Hashtags for Information Literacy Instruction," *Computers in Libraries* 34, no. 7 (2014): 19-22.

¹² Sean Keach, "Instagram Now Has More Users Than Twitter," *Trusted Reviews*, December 12, 2014, <http://www.trustedreviews.com/news/instagram-now-has-more-users-than-twitter> (accessed July 30, 2015).

¹³ Shi Zhan, Huaxia Rui, and Andrew Whinston, "Content Sharing in a Social Broadcasting Environment: Evidence from Twitter," *MIS Quarterly*, 38 (2014): 123-A6.

¹⁴ Andrew Whinston and Huaxia Rui, “Social Media as an Innovation—The Case of Twitter,” *SSRN Network*, March 10, 2010

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1564205

(accessed December 5, 2014).

¹⁵ Timm Sprenger and Isabell Welpel, “Tweets and Trades: The Information Content of Stock Microblogs,” *SSRN Network*, November 1, 2010,

http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1702854 (accessed December 5, 2014).

¹⁶ Elizabeth Blankespoor, Gregory S. Miller, and Hal White, “The Role of Dissemination in Market Liquidity: Evidence from Firms’ Use of Twitter,” *SSRN Network*, April 24,

2013, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1657169 (accessed December 5, 2015).

¹⁷ The bid-ask spread is the difference between the bid price (highest price a buyer is willing to pay) and the ask price (lowest price at which a seller will sell).

¹⁸ As mentioned previously, students have a series of assignments throughout the semester involving their assigned company. The example company for all of these assignments was Starbucks.

¹⁹ Gemma Charles, “Kraft Instant to Take on Starbucks Via,” *Marketing*, November 23, 2010, 1-2.

²⁰ “Starbucks Expands Via, Debuts New Seattle’s Best Logo,” *Beverage Industry 101*, no. 6 (June 2010): 9.

²¹ The university did use Blackboard as its learning management system and now uses Canvas.

²² This survey was not published, but the author had access as a member of the school undergraduate program committee.

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