

Impact of Social Media on Capital Market



Efficient Market Hypothesis (EMH) theory states that stock prices are basically driven 'news' type of information. And social media platforms offer unique features to communicate directly and immediately with any individual or corporate. A number of studies and surveys have revealed that stock markets are very sensitive to any news and social media acts as a catalyst to spread news and opinions. With the high speed of news spread, large amplification of its reach and increasing propensity of general public to consume data over social platform, social media is likely to have a great impact on the capital market. Read on to know more...

Social Media

Social Media platforms offer unique features to communicate directly and immediately with any individual or corporate. With easy access of social media sites through mobile and laptops, social platforms like Facebook, Twitter, Google+, pinterest and many others are increasingly used by large number of people to share information, news and thoughts. People are freely expressing their opinions and sharing information about investment on online forums, micro blogs and on social networks. So, the news becomes viral within a fraction of seconds. Thereby, social sites, which can be regarded as an extension of word-of-mouth information spread, has given everyone the power to influence opinions of others and in turn influence other's purchase. Social sites act as an indicator of people's mood and enable investors to learn about other people's opinions regarding stocks and index.



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Capital Market

Efficient Market Hypothesis (EMH) theory states that stock prices are basically driven 'news' type of information. The strongest form of EMH assumes that current stock price fully reflects all public and private information. Any new information is quickly and properly reflected in the market prices. The major factor impacting stock price – 'news' is highly unpredictable. Further, news cannot be predicted with accuracy. In addition, the mosaic theory suggests that analysts may look for early indicators to predict changes in economic or company-specific indicators that may affect stock prices.

Behavioural finance is a combination of traditional finance, psychology and neuro-economics. It focuses on how individuals behave and make financial decisions. Extending this anomaly to capital market, it can be assumed that the public mood and sentiment can drive stock market movements. In other words, capital market is based on sentiments. Social media acts as a hub of information related to people's mood. Also, humans are more likely to follow the behaviour of their peer, especially when the market is uncertain. This accelerates the impact on people's sentiment on stock prices. Thereby, market participants can pick an early signal related to sentiments and moods from online social media like blogs, Twitter feeds or Facebook post.

Social Media enables quick spreading of news and opinions, which forms the basis of movement in stock prices. A recent study¹ concluded that social trading was more profitable than individual trading.

In India, companies disclose all corporate information to shareholders through its website. In addition, many companies are using the social media to promote their product or services, communicate with their customers and build their corporate brands.

Detailed below are few of the incidents on social media across the globe that have impacted the capital market. None of the incidents (similar to those mentioned below) has impacted the Indian capital market. However, to ensure that the Indian Capital Market is protected from any similar cases, SEBI² has

disclosed that it is working on guidelines for use of social media by corporate. There is greater likelihood that the social media would be increasingly preferred to seek investment advice as India is estimated to have the largest population over Facebook and Twitter by 2016³.

However, learning cues can be taken from events that occurred in developed countries.

1. Netflix Inc. (NASDAQ: NFLX)

Event - July 5, 2012⁴: Reed Hastings, the CEO of Netflix, posted on its Facebook page that they have more than 2 lakh subscribers. His post was related to its content licensing team, as the company's customers has streamed more than 1 billion hours of video in June 2012. This data relating to viewership is non-public information. This information was not disclosed to the regulatory body prior to its disclosure over Facebook. Neither had the company indicated that such information would be shared through the Facebook page.

Impact: This Facebook post led to an increase in Netflix's share prices from \$70.45² to \$81.72 in a day. Lesson: Here, the non-financial information related to the company was released by CEO through its personal profile page. This incident induced SEC to revisit its policy for corporate disclosure, thereby permitting companies to use the social media⁵ website like Facebook and Twitter for corporate communication and disclosures, provided the market participants are aware of the medium that the company would use to disclose information.

The following points highlight factors that should be considered while releasing corporate information through social media:

- Who would be responsible to make the information public over web or social media?
- Whether the corporate information must be released through corporate account or whether the key personnel of the company have the rights to release non-public information on their personal social media accounts⁶.
- If the information is released through personal

¹ Wei Pan, Yaniv Altshuler and Alex (Sandy) Pentland Decoding Social Influence and the Wisdom of the Crowd in Financial Trading Network, MIT Media Lab <http://web.media.mit.edu/~yanival/socialcom12.pdf>

² Palak Shah, Economic Times, 'Sebi to issue social media norms to avoid unofficial disclosures on Facebook, Twitter', Apr 3, 2013 http://articleseconomicstimes.indiatimes.com/2013-04-08/news/38374039_1_insider-trading-regulations-sebi-social-media

³ PTI, The Financial Express, 'Facebook, Twitter craze runs through India, set to be crowned as world No. 1', Nov 20, 2013 <http://www.financialexpress.com/news/facebook-twitter-craze-runs-through-india-set-to-be-crowned-as-world-no.-1/1197267/0>

⁴ Steven Russolillo, The Wall Street Journal, 'Netflix Shares Surge; Option Activity Jumps', Jul 5, 2012 <http://blogs.wsj.com/marketbeat/2012/07/05/netflix-shares-surge-option-activity-jumps/>

⁵ Joshua Gallu, Bloomberg, 'SEC Approves Using Facebook, Twitter for Company Disclosures' <http://www.bloomberg.com/news/2013-04-02/sec-approves-social-media-use-for-companies-material-disclosure.html>

⁶ Emily Chasan The Wall Street Journal 'Companies Take Cautious Approach to Social Media disclosures', Apr 8, 2013 http://blogs.wsj.com/cfo/2013/04/08/companies-take-cautious-approach-to-social-media-disclosures/?mod=google_news_blog

account of key personnel, whether the company is required to inform the investors about the same.

To ensure that company material information is not leaked, it is important that companies have a social media compliance strategy for corporate disclosure in place. Such a strategy must include information related to :

- The person responsible for the company's social media activity
- List out the social media platforms where the company or its key personnel has presence
- Whether all social media channels be allowed to disclose information or selected list of permissible social media channels be allowed
- Information about timing of release of corporate information – financial or non-financial over social media
- Whether the information released on social media is supplementary to traditional media or would replace traditional means of corporate disclosure.
- Whether the disclosures are in accordance with the regulatory framework.

In the Indian context, the decision whether or not to release material on non-public information through social media must be made after considering the computer literacy and tech-savvy nature of investors and market participants. So that no shareholder or interested party is less privileged in accessing the information.

2. Apple Inc. (NASDAQ: AAPL)

Event - August 13, 2013⁷: Carl Icahn (investor) released tweets that related to his interest in Apple stock, relation of Apple stock price and its valuation and his conversation with Apple CEO Tim Cook. The tweet highlighted stock buyback plan. It gained a lot of attention among investors, analysts and other market participants. As of September 2013, he owned 3.88 million⁸ shares of Apple.

Impact: Icahn's tweet pushed the stock up from \$475.76 to a high of \$494.66 within an hour, thereby increasing the market capital of stock by \$17 billion.

Lesson: In this case, the information related to

stock trading is disclosed by prospective investor over twitter. Additional points to be considered in the social media compliance strategy would include:

- Whether the company is required to monitor information shared through investor blogs and other social media
- If the company is aware of such post or any sites offering investment advice regularly, what steps must be taken by the company.

3. Twitter Inc. (NYSE: TWTR)

Event – September 12, 2013⁹: Twitter disclosed that it has filed papers for IPO through tweet.

Lesson: In this case, the material corporate information was disclosed to public through tweet. This draws attention to the nature of information that can be shared through the social media.

- Whether a disclosure related pending corporate financial announcements, market sensitive information, material financial and non-financial transactions, and market speculation would be disclosed through the social media
- Whether the company can disseminate all material non-public information – quarterly financial information, acquisition or merger, achievement of key milestone or new contract through social media.
- Whether the market participants are required to know in advance¹⁰, the means of communication that companies would use to disseminate specific information. So the parties looking for information are aware of the search they need to do to receive the information.

4. Domino's Pizza, Inc (NYSE: DPZ):

Event – April 15, 2009¹¹ : Two Domino's employees posted on YouTube video demonstrating health department violations while preparing foods. The video went viral and was viewed over 1 million times. The discussion about this video was spread through Twitter.

Impact: The Domino's stock price dropped by 10%¹² during the incident period.

Lesson: In this case, the information was shared

⁷ Aaron Pressman, *The Exchange – 'Carl Icahn's Multibillion-Dollar Tweet Boosts Apple Stock'*, Aug 13, 2013 <http://finance.yahoo.com/blogs/the-exchange/carl-icahn-multibillion-dollar-tweet-boosts-apple-stock-205938760.html>

⁸ Reuters, *Carl Icahn Owned 3.9 Million Shares Of Apple As Of September 30*, Nov 15, 2013 <http://www.businessinsider.in/Carl-Icahn-Owned-3-9-Million-Shares-Of-Apple-As-Of-September-30/articleshow/25828957.cms>

⁹ *Twitter Files for Initial Public Offering*, *The Wall Street Journal*, Sep 12, 2013 <http://online.wsj.com/news/articles/SB10001424127887323392204579071511038487586>

¹⁰ *SEC Issues Guidance on Use of Social Media to Disseminate Corporate Information*, Apr 15, 2013 <http://www.gibsondunn.com/publications/pages/SEC-Issues-Guidance-on-Use-of-Social-Media-to-Disseminate-Corporate-Information.aspx>

¹¹ Stephanie Clifford, *The New York Times*, *Video Prank at Domino's Taints Brand*, Apr 15, 2009 <http://www.nytimes.com/2009/04/16/business/media/16dominos.html>

¹² Tony Sousa, *Acceleration Media*, *Online reputation risks should be managed from the top* <http://www.accelerationmedia.co.za/newsroom/online-reputation-risks-should-be-managed-top>

In an event dated April 15, 2009, two Domino's employees posted on YouTube a video demonstrating health department violations while preparing foods. The video went viral and was viewed over 1 million times. The discussion about this video was spread through Twitter. The impact was that the Domino's stock price dropped by 10% during the incident period.

by employees through their personal account. To ensure that company's brand image is not distorted by any of its employees, it is important that companies have social media guidelines for officers and other employees. Such guidelines must include information related to:

- Whether social media guidelines relates to policies for officers and key employees who have access to material, non-public information
- Whether the employees are educated about the type of information to be disseminated through the social media and application of the securities laws.
- Whether the designated person be held responsible to identify whether material non-public information, if any, is published on the social media by officers or key employees
- Whether the interest of its clients, business partners, suppliers or any related party is affected by any of the company's disclosure over the social media.

5. Audience Inc. (NASDAQ:ADNC):

*Event - January 29, 2013*¹³: A tweet was posted from @Mudd1waters (fake handle posing as Muddy Waters Research) stating that that audio company Audience was under investigation by the Justice Department on rumoured fraud charges. Though, Muddy Waters confirmed it did not send such a tweet about Audience. The Company chose not to respond to this tweet.

Impact: Within two minutes, Audience's stock price fell from \$12.0 to \$8.87 with 300,000 shares transaction. The stock trading was later halted.

Lesson: In this case, fake information about the company was released from fake twitter handle of muddy water, a short-selling firm. To minimise corporate loss from similar incidents companies must



have risk mitigation strategy in place. Such strategy must include steps that must be implemented quickly by the company:

- If any material non-public information is leaked prematurely in the market *via* social media
- If rumours are flourishing in the market related to price sensitive information.

Further, to facilitate market participants to distinguish between fake and original corporate identity, information related to official Facebook page, Twitter account and other social media channels along with related links can be provided on the corporate website.

6. United Airlines, subsidiary of United Continental Holdings Inc (NYSE:UAL)

*Event – 2008*¹⁴: United Airlines passenger Dave Carroll's guitar was mishandled by the Airlines' baggage handling staff. Carroll's guitar was broken. After his repetitive follow up with the customer support of the Airlines for reimbursement failed, Carroll expressed his wrath through a song and posted it on YouTube. The video went viral with over 11 million views.

Impact: United Continental stock price plunged 10%, which is equal to losing \$180 million in market capital.

Lesson: This incident highlights that even a non-financial event has great power to impact stock prices.

7. Associated Press (AP) and Dow Jones industrial average

*Event - April 2013*¹⁵: A fake tweet was released from

¹³ Hoax tweets send Audience shares at twitter Reuters, Jan 29, 2013 <http://www.reuters.com/article/2013/01/29/us-audience-shares-idUSBRE90S11T20130129>

¹⁴ United Breaks Guitars: Did It Really Cost The Airline \$180 Million? http://www.huffingtonpost.com/2009/07/24/united-breaks-guitars-did_n_244357.html

¹⁵ Heidi Moore and Dan Roberts, theguardian.com, 'AP Twitter hack causes panic on Wall Street and sends Dow plunging', Apr 23, 2013 <http://www.theguardian.com/business/2013/apr/23/ap-tweet-hack-wall-street-freefall>



a hacked twitter account of Associated Press (AP) – US news organisation. The tweet relates to explosions in the White House and injury of Obama. Within fractions of a second, the tweet reached 1.9 million¹⁶ AP followers.

Impact: The single tweet jittered Dow Jones industrial average with index falling from 14,697¹⁷ to 14,554, losing 143 points, or 1%.

Lesson: The incident highlights the impact of algorithm programme which is based on positive and negative words in news. The event suggests that total reliance cannot be placed on automated trading system. Further, this incident also draws attention to the importance of policy related to automatic trading system, routine maintenance and test of such trading system along with disclosures related to proper functioning of automated system.

The above list of incidents highlight the increased use of social media websites like Facebook and Twitter in the financial world and the preference of social sites to send out breaking news. An analysis of the above incidents indicates that social media has altered the human habit of consuming information.

Studies¹⁸ conducted to analyse the impact of social media on stock price:

- 1. Indiana University:** A study was conducted to analyse tweets posted from March 2008 to December 2008 to predict the movement in Dow Jones Industrial Average (DJIA). For the purpose of this study, tweets were segregated into 5 categories - calm, alert, sure, vital, kind and happy. Analyses of over 9 million tweets over the duration indicated that calmness of tweet could predict movement in DJIA over next week with much accuracy.
- 2. Pace University:** A study was conducted to track companies' activities on Facebook, Twitter and You Tube for three brands - Starbucks, Coca Cola and Nike. It tracked data over 10 months. The study highlighted the existence of correlation between daily stock price movement and index of consumer stocks, after including 10 to 30-day lag into study, thereby suggesting that the social media could enable the market participant to predict its movement over the next few weeks and thereby facilitate alpha generation.

Survey: Post the incident of AP tweet, OneMarketData¹⁹ conducted a survey among buy and sell-side professionals. The result of the survey highlighted that analysts look for the social media data to capture alpha in stock price on a daily basis.

Initially, the financial industry felt the challenge to incorporate social media information into research. However, with the incremental influence of social media over capital market, the challenge to integrate data is overcome with a number of available products. For instance, Bloomberg²⁰ has initiated professional services to integrate real-time feeds and analysing tweets that influence financial market. Also, Thomson Reuters has a social media specialist team to build complex algorithm and data mining tools to gauge market sentiment and calculate impact on securities prices. In addition, NASDAQ has launched a mobile application that prominently incorporates content from StockTwits²¹. ■

¹⁶ David Jackson, USA TODAY, Apr 23, 2013 <http://www.usatoday.com/story/theoval/2013/04/23/obama-carney-associated-press-hack-white-house/2106757/>

¹⁷ Bernard Condon and Matthew Craft The Christian Science Monitor, 'Stocks stumble after a fake tweet announced White House attack', Apr 23, 2013 <http://www.csmonitor.com/layout/set/r14/Innovation/Latest-News-Wires/2013/0425/Stocks-stumble-after-a-fake-tweet-announced-White-House-attack>

¹⁸ Gnip, Inc. Whitepaper 'Social Media and Markets: The New Frontier' <http://gnip.com/docs/social-media-and-markets.pdf>

¹⁹ Capital markets participants bullish on social media data, Jul 26, 2013 <http://www.finextra.com/News/FullStory.aspx?newsitemid=25059>

²⁰ Bloomberg adds real-time tweet stream to market data desktop, Apr 04, 2013 <http://www.finextra.com/News/fullstory.aspx?newsitemid=24694>

²¹ Timm O. Sprenger*, Isabell M. Welppe (2010), 'Tweets and Trades: The Information Content of Stock Microblogs', Technische Universität München, Electronic copy available at: <http://ssrn.com/abstract=1702854>