SOCIAL MEDIA METRICS: ARE WE MEASURING BUSINESS VALUE?

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Abstract

Over the past few years many organizations that directly or indirectly interact with consumers have invested heavily into a social media presence. As a consequence some success indicators are openly available to users of many social media platforms, such as the number of fans (or followers, members, visitors and others) or the amount of content (tweets, images, shares or other content). Many organizations additionally track their social activities internally to understand audience reach, consumer influence, brand image, consumer preference or other key metrics that make sense for a business. However, most of the immediately available social media success metrics are activity-based and many organizations are struggling with establishing a direct relationship to business success. This paper systematically reviews some of the common social media metrics/ratings used by organisations, critically analyse its business value and identify gaps formulating research questions for empirical study and concluding with recommendations and suggestions for future research.

Keywords: Social media metrics, measuring social media, tangible business value, social media, social networks.
1 INTRODUCTION

As of December 31, 2012 the online social network site Facebook user base reached 1.06 billion, of which 618 million were active on a daily basis and 680 million accessed via mobile devices (Facebook, 2013). To put this into perspective, if Facebook were a country it would be the third largest after China and India (Qualman, 2011). The micro blogging service Twitter’s user base for year ending 2012 was 500 million registered users, with 187 million being active user; these users account for 340 million tweets (140 character short messages) per day. The online video sharing service, YouTube user base for year ending 2012 was 800 million unique monthly users; 4 billion hours of videos are being watched each month and 72 hours of videos are uploaded to YouTube site every minute (YouTube, 2013).

As of 2011, one third of the world population had access to Internet (International Telecommunication Union, 2011). Internet Society’s Global Internet User Survey 2012 highlighted that, 96% of users accessed Internet at least once a day and out of which 90% used it to access social media sites and 60% do so on a daily basis (Internet Society, 2012). According to Nielsen’s Social Media Report 2012 (The Nielsen Company, 2012), in U.S. 84% of total Internet users accessed some form of social media using PC and mobile devices for the month of July, a 6% increase from the previous year. Two notable aspects are that 23% out of the total minutes connected to the Internet was used for accessing social networking sites and once connected, 30% of mobile Internet time and 20% of PC Internet time was spent on social networking sites. While these numbers are already staggering, they are expected to grow significantly given the world’s mobile-cellular subscriptions already reached 6 billion at the end of 2011 (International Telecommunication Union, 2011) and the total number of Smartphone shipped worldwide are expected to reach 1 billion this year (Pew Internet & American Life Project, 2012).

The increasingly easy access to mobile devices packaged with data plans and in some instances unlimited access to social networking sites offered by telecommunication service providers to stay ahead of the competitive market is providing consumers more opportunities to go social. Organisations on the other hand do not want to miss out on this enormous potential to reach out to their audiences regardless of the intended use and for some organisations social media has become de facto channel of communication both internally and externally. Despite the enormous potential to reach out to the global audience many organisations are grappling to answer how well their organisation is performing in social media space.

In this paper we will review the social media metrics that are widely used in industry, critically analyse its business value, identifying the gaps of existing metrics, formulating research questions for empirical study and concluding with suggestions and recommendations for future research. We will proceed as follows: definition and types of Social Media, review of existing social media metrics, previous work, gaps, conclusion and future work.

2 DEFINITION

2.1 Social Media

Social media is defined as a group of Internet-based applications build on the ideological and technological foundations of Web 2.0, and that allows the creation and exchange of user-generated content (UGC) (Kaplan & Haenlein, 2010). Due to an ever-increasing number of social media applications introduced by new or established companies, no standardised classification in academia exits but there have been few attempts thus far. Kaplan and Haenlein (2010) classified social media into six categories based on media research theories and social processes (Kaplan & Haenlein, 2010). Kietzmann et, al. propose a honeycomb framework based on seven functional blocks of social media functionality and its implications has been proposed (Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). Safto (2012) for instance divides social media into fifteen categories based on utility of social
media (Safko, 2012). Solis and JESS3 (2012) categorized the social media landscape into twenty-five different types based on specific usage (Solis & JESS3, 2012). On the other hand in the industry, the Interactive Advertising Bureau (IAB) representing 500 leading media and technology companies with the aim to educate industry players, wider business communities and consumers, which also evaluates and recommends standards, develops best practices, and fields critical research has created standard definition for Social Media (Interactive Advertising Bureau, 2009). According to IAB the current social media landscape can be divided into three distinct categories:

- Social Media Sites
- Blogs
- Widgets and Social Media Applications

Social Media sites are characterised by the inherent functionality that facilitates sharing of information between users within a defined network presenting opportunity for initiating conversation by either party, a key differentiation compared to other broadcast channels.

Blogs, short for weblog is a type of Web site used by individuals, groups or business entities to publish opinions and commentaries on various topics. Blog content can be focused on very niche topics or can cover current events, popular themes, or even take the shape of a personal diary. Blog posts are listed in reverse chronological order and also allow for comments for readers. Posts can be in the form of text, image, video or rich-media formats. Blogging platforms allow for rapid syndication of content to interested audiences using the opt-in protocols such as Really Simply Syndication (RSS).

Web applications are software programs designed to work on one or more platforms. The term “Application” is most commonly used to describe a platform-specific program, such as a Facebook or MySpace application, which can tap into the sharing functionality or data available on a particular social network. Applications only work on platforms that were designed for whereas widgets are portable. Widgets are applications that can function on any site that accepts external content, including social networks, blog platforms, start pages (i.e. MyYahoo) desktop platforms or personal Web pages. Widgets can be built to function differently on each platform, delivering varying degrees of integration with a social network, from accessing and using social data to not interacting with platform at all.

Some of the common social media platforms include collaboration sites (e.g. Wikipedia, Wikimedia, etc.), blogs (e.g. Google Blogspot, WordPress, etc.), micro-blogs (e.g. Twitter, Tumblr, etc.), social network sites (e.g. Facebook, MySpace, Google+, etc.), business networking sites (e.g. LinkedIn, Plaxo, etc.), event sites (e.g. Meetup.com, Eventful, etc.), social bookmarking sites (e.g. del.icio.us, StumbleUpon, etc.), social news sites (e.g. Digg, Reddit, etc.), discussion boards (e.g. CraigList, Amazon, etc.), review sites (e.g. yelp, Epinions, etc.), content sharing communities (e.g. Flickr, Pinterest, YouTube, Last.fm, SlideShare, Scribd, etc.), virtual game worlds (e.g. World of Warcraft, EverQuest, etc.) and social virtual worlds (e.g. Second Life, VastPark, etc.).

2.2 Social Media Metrics

Insightful and relevant analysis has been a research as well as a practical challenge for a long time. Social media analysis adds to the existing challenges of having to deal with multiple platforms, enormous amounts of user generated data, multiple languages, language ambiguity, and various types of content and timeliness of the analysis. Both academic and practitioner literatures interchangeably use the term ‘social media metric’ with social media measurement or monitoring which refers to both the quantitative and qualitative matrices of social media activities. Examples are number of fans, tweets, brand sentiment, and others. The IAB has defined the following social media metrics based on the three categories (social media sites, blogs, widgets & social media applications) of social media defined earlier in section 2 (Interactive Advertising Bureau, 2009).

**Social Media Sites Metrics:** Unique visitors cost per unique visitor, page views, visits, return visits, interaction rate, time spent, video installs and relevant actions taken

**Blog Metrics:** Conversation size, site relevance, author credibility and content freshness & relevance
Widget & Social Media Applications Metrics: Application installs active users, audience profile, unique user reach, growth, influence, application/widget installs by users, active users/widget installs in the wild and longevity/lifecycle

3 EXISTING METRICS OF SOCIAL MEDIA PLATFORM

For the purpose of this review, we have chosen some of the commonly used metrics applicable to the top 5 social media platforms based on user volume and aggregators of specific measures are as follows:

3.1 Metrics specific to social media platforms

Facebook: Number of fans, likes, comments, shares, page visits, friends of fans, new fans, number of people talking, etc.

Twitter: Number of members, unique visitors, page views, tweets, followers, new followers, retweets, retweet ratio, path of retweets, replied to, mentions, following, sentiment, influence, etc.

LinkedIn: Total connections, new invitations, profile views, search results, number of business followers, inbox activity, sentiment, request for business, signal keyword mentions, likes & comments on updates, group growth & interaction, recommendations, etc.

YouTube: Number of views, unique viewers, subscribers, likes, favourites, number of comments, onsite plays, impressions, etc.

Google+: Pages growth, number of users added to circles, number of shares, number of posts per day, etc.

3.2 Metrics specific to common categories

Google Analytics: Number of posts assigned/sent/resolved, answer rate, resolution rate, satisfaction score, social account success, message efficacy, employee ROI, etc.

Social Network Analysis Metrics: Network degree centrality, betweenness centrality, closeness centrality, eigenvector centrality, etc.

Influence Metrics: Conversation reach, audience engagement, % of active advocates, advocate influence, advocate impact, share of mind (SOM), engagement score, net promoter score (NPS), influence score, Klout score (true reach, amplification probability, network influence), tunkrank score, KRED score, peerindex score, traackr (reach, resonance, relevance), net promoter score (NPS), etc.

Sentiment Metrics: Sentiment ratio, net sentiment of brand, net positive sentiment, net sentiment of industry, social influence marketing (SIM) score, mindset index (motivations that drive consumer actions), etc.

Competition Metrics: Share of voice, sentiments, volume of mentions/likes, mindset index, comparison across competitors, etc.

Public Relation Metrics: Awareness, engagement negativity, virality index, viral impact, theme-wise tonality, impact score-prism indices, etc.

4 PREVIOUS WORK

Literature review of previous scholarly work was carried out searching academic literature databases such as ABI/Inform Global, ACM Digital Library, Applied Science & Technology, Business Source Elite, EBSCO Publishing, IEEE Xplore, ProQuest, ScienceDirect, SpringerLink and Web of Science with the following keywords (1) social media metrics (2) measuring social media (3) value of social media (4) social media success measures (5) evaluating social media (6) social media AND business value.
Our search returned a total of 170 articles encompassing journals, conference publications, books, book chapters and thesis dissertations. Nearly 70% of those articles were themed under social media content analysis targeted to analyse unstructured user generated content of various social media platforms. Nearly 20% of them were on the algorithms of supervised/automated mining of consumer opinion or word-of-mouth marketing. Only 2% of articles were directly/indirectly had some mention about business value of social media and review of various social media measurement.

In our endeavour to address both the practical relevance and rigour of Information System research, equal importance was given to practitioner literatures to gain comprehensive overview of current industry practice (Rosemann & Vessey, 2008).

Sterne (2010) in his book Social Media Metrics cautions that be it in social media or any business, what matters in the long run are the ‘Big Three Goals’ such as (1) increase revenue (2) lower costs and (3) improve customer satisfaction, anything else that one measures would be useless. Sterne (2010) further suggests that a comprehensive social media measurement should encompass the following activities (1) reaching audience (2) indentifying influence (3) recognize and analyze user sentiment (4) response action (5) hearing user conversation (6) driving business outcomes (7) convincing colleagues & management (8) planning for future (Sterne, 2010).

Hoffman (2010) recommends a “4c’s” approach, addressing consumer’s four key motivations – connections, creation, consumption and control mainly due to social media reality where consumers are fully in control of their online experiences, creating and consuming online content than the marketer-generated. Hoffman further mentions that relevant metrics should be organised by key social media objectives and for a start can categorise under (1) brand awareness (2) brand engagement (3) word of mouth (Hoffman & Fodor, 2010).

Debra (2012) suggests the five social media metrics that matters are (1) quality of fans/followers (2) social demographics (related to the who are the fans/followers and their quality) (3) most popular pages, posts & tweets (4) page views & click-throughs (5) conversation (Donston-Miller, 2012).

Given the complexities of identifying the value of social media, the difference between traditional and digital media and dispute over what measures are suitable for pin-pointing economic returns Gilfoil & Jobs (2012) has proposed a 3D unit of analysis conceptual model factoring internal/external organisational complexity, functional overlay and social media metrics/measures (Gilfoil & Jobs, 2012).

5 REVIEW

With many social media measurement dos & don’ts, guidelines, models, frameworks, etc., one is indeed overwhelmed with information overload, confused and in many instances failure to inculcate into an organisation’s social media strategy. This is reflective of the views of respondents in relation to objectives and measurements was that, “it is difficult to measure the value of social media” as mentioned in the research report published by Australian Centre for Public Communication (Menamara, 2011).

Calbreath (2010) asserts that despite increased expenditure by organisations in social media over several years, organisations are unable to ascertain the business these platforms bring into a company (Calbreath, 2010). Calbreath cites the keynote speakers Bradlow and Ennen of Online Marketing Summit 2010 as saying, “viral videos – even if they are very popular on the Web, often creates barely a sniff of interest from consumers. Calbreath further mentions Burger King’s losing market share to McDonald’s despite its popularity of viral videos. Calbreath further cites Kahlow’s suggestion that return on investment might not be the best standard for evaluating social media (Calbreath, 2010).

Bradlow and Ennen (2010) in their keynote address of Online Marketing Summit 2010 emphasised that the success of online marketing depends on what methods are used (Bradlow & Ennen, 2010). They both went on to suggest that the impact of social media is clear but the measurement can be
challenged by noise namely (1) soft metrics – meaningless or close to meaningless (2) faux metrics –
fabricated by technology (3) data deluge (4) confusion. From their empirical research findings they
also warned of four failures of social media measurements & analytics such as (1) ineffective sharing
of information within organisation (2) poorly defined goals and metrics (3) companies’ failure in
taking action or improper action on results (4) no holistic or cross platform synchronisation (Bradlow
& Ennen, 2010).

Hoffman and Foder (2010) in their review mentioned that most practitioners mistake social media
applications as just another traditional marketing communication vehicle without realising its
consumer controlled than marketers. In their study they further observed that due to the narrow focus
on return on investment, qualitative objectives such as value of a tweet about brand is often ignored
(Hoffman & Fodor, 2010).

Madison (2012) who runs social media company admitted that until recently they were confused about
what metrics mattered and many companies used wrong metrics to measure their performance.
Madison further elaborates that metrics such as pageviews, unique visitors, registered members,
conversion rates, email-newsletter open rates, and number of Facebook fans/likes or Twitter followers
are false idols of analytics – vanity metrics that cannot withstand the test of “So what?” (Madison,
2012).

Ennen (2010) argues that the hotly debated metrics – such as (1) influencers (2) engagement (3)
sentiments (4) earned vs. Paid media (5) real-time metrics proves otherwise with empirical research;
studies conducted by Coulter, Feick and Price (2002) and Godes and Mayzlin (2009) shows
conflicting answers to whether indeed heavy users are more influential than light users (Ennen, 2010)
(Robin, Lawrence, & Linda, 2002) (Godes & Mayzlin, 2009).

Kaushik (2012) reiterates that what matters in social media is not the number of friends, followers,
subscribers, number of posts/tweets, followers to following ratio, etc. But highlights that whether or
not one’s post grab attention, deliver delight, made people want to share, initiate a discussion, cause
people to take action and ultimately whether one’s participation delivered economic value (Narayanan
et al., 2012).

Malhotra (2012) express concerns that today’s obsession with number of fans, owning more fans than
competitors has become a key driver for brands online which is similar to quarter performance results
paranoia in the real world. Malhotra (2012) recommends building strong nucleas and critical mass in
the infancy stage of social media programme to justify spending for inorganic growth via ads, apps or
contest. Scaling up mass has always been a means to achieve key business outcome and not the ends.
Unfortunately social media of today is often reduced to ‘vanity fair’ without linkage with business
goals (Narayanan et al., 2012).

In course of our literature review we stumbled upon websites that sell Facebook “likes”, “fans”,
Twitter “followers” and more; a simple google search with keyword “buy facebook likes” returned us
532 million matches. Some of the websites even had a guarantee policy, following are some to
mention:

- [http://fbviro.com/](http://fbviro.com/)

Given organisations boasting one’s fan pages, followers and tweets that could be easily bought online
gives impressions of commoditisation of these metrics and mislead stakeholders to believe that an
organisation is delivering value which is questionable.

Mauboussin (2012) shares his industry experience admitting measuring wrong statistics which resulted
in poor decisions and undermining performance; Michael (2012) highlights that the statistics many
organisations use often to track performance are financial measures – sales and earnings per share growth, nonfinancial measures – loyalty and product quality which have flimsy connection to the objective of creating shareholder value; Michael (2012) advises that useful statistics should have two qualities – persistent (showing similar outcome when used on several instances) and predictive (demonstrating a causal relationship between the action and outcome being measured); Choosing the right metrics will allow to understand, track and manage the cause-and-effect relationships that determine the value of an organisation. Michael (2012) recommends a four-step process (1) define a governing objective (2) develop a theory of cause and effect to assess presumed drivers of value (3) identify the specific activities that employees need to do to help achieve the governing objective (4) regularly re-evaluate the chosen metrics to ensure that they continue to link employee activities with governing objective (Mauboussin, 2012).

6 GAPS

From our comprehensive literature review we have found previous and ongoing research in areas of social media platforms, social network analysis, social media content analysis, sentiment/opinion mining, word of mouth content analysis, return on investment for social media, impact of social media, survey reports, economic value of social media but under the topic of social media metrics often a returned more practitioner materials (white papers, marketing/PR powerpoint slides, blogs and personal opinions) than validated empirical research. These has led us to pursue our endeavour in further probing and validating with scientific methods and below are the research questions to begin with:

RQ1: What is the scientific rigour of existing social media metrics?

RQ2: What measures of social media would provide business value for an organisation?

RQ3: How to measure the social media success of an organisation?

This further resonates with all businesses alike as measurement has been and will be hotly debated and challenged.

7 CONCLUSION

By and large from the global consumers’ usage pattern via market research, survey report, or forecast report, social media’s growth and reach compared to any other communication channel has been phenomenal and unrivalled. By gone are the days where breaking news was exclusive to television, radio, newspapers, etc. With the proliferation of social media we can safely say that from internet age we have moved to the social media age. Given such widespread consumer usage and adoption rate, we are still in the infancy of its measurement. As the old adage goes, we can’t monitor what we can’t measure, let alone to find value. More so for organisations either for profit or non-profit or government bodies which needs deeper understanding as far as measurement is concerned in social media. Purpose and meaning should be focus point when engaging with stakeholders, that is only way organisations or brands can remain relevant and become brands of the future (Narayanan et al., 2012).

8 FUTURE WORK

We strongly feel that more empirical research is required to further probe and identify the key measures which would be of interest to all users of social media. This could further lead a validated framework of measurement or a measurement maturity model based on whether a business is a new entrant or a social media veteran. We are also interested in identifying if measurements can be standardised across industries or specific measurement required for a given industry. The possibilities are many, but only confined to one’s pursuit and deeper understanding.
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