Changes in Facebook Behavior Over Time

Martin S. fiebert[1]

[1] California State University, Long Beach.

Abstract

Use of social networking sites has led to research concerning online behavior and personality. This study uses a model specifically developed to study the shifts in behavior of five defined types of Facebook users over a 5-year period as they exploit the site?s Timeline feature. Analysis revealed a statistically significant difference in activity among Scrapbookers, $t(7) = 7.99$, $p < .01$ and $(M = 9.13, s = 3.23)$ as well as among Social Butterflies, $t(7) = 7.13$, $p < .01$ and $(M = 7.38, s = 2.92)$. The t-test found no discernable statistically reliable difference in the Observer category $t(7) = 1.53$, $p > .05$ and $(M = 0.5, s = .93)$ nor in the Activist category $t(7) = 1.69$, $p > .05$ and $(M = 1.63, s = 2.72)$, or Entrepreneur category $t(7) = 1.53$, $p > .05$ and $(M = 1.75, s = 3.24)$.

Index terms—

he recent increase in the number of social networking sites has added a new dimension to human communication and interaction. Since its creation in 2004, Facebook (FB) has become the largest site, with over 1.06 billion monthly users across the globe (Tam, 2013). In general, people who use Facebook see it as a central part of their day, typically expending an estimated twenty minutes at that site (Cassidy, 2006). Social scientists have become interested in researching behavior around this extensive use of a relatively new and area of communication. A recent comprehensive review reveals that over 400 studies have been published to investigate a range of variables associated with FB use ??Wilson, Gosling & Graham, 2012).

Recently a model to assess FB behavior has been proposed (Fiebert, 2013;Vaughn, Warren & Fiebert, 2012). It proposes a typology of FB users that has been used to study impression management as a function gender and sexuality (Alpizar, et al., 2012), and the offering of birthday greetings as a function of gender and relationship status (Fiebert, Tilmont, & Warren, 2013.).

The present investigation employs the proposed typologies (see below) to examine user behavior across the FB feature known as Timeline. In late 2011, Timeline was an optional feature, but by the end of 2012, it had become standard (Lessin, 2011;McDonald, 2012). Facebook Timeline is unique in that it organizes a user"s posts (comments, photos, videos, and other activity) in chronological order, based on the time of the post. Thus an historical "snapshot" of a FB user"s activity is Author ? ? : California State University, Long Beach. E-mail : martin.fiebert@csulb.edu available for detailed analysis over a lengthy period of time.

This present study is a pilot investigation designed to examine FB typological behavior changes for eight individuals over the five years between 2008 and 2012. a) Participants Analyzed Facebook profiles were randomly selected from the FB "Friends" list found on every profile. A total of eight were chosen for analysis, four from a personal list of friends and four from a personal friend"s list of friends. No mutual friends were involved, which provided 2 nd and 3 rd degree connections for analysis ensuring a more diverse subset of personalities. Of those users selected, six were male and two female. The ages of participants ranged from 20 to 45 (M = 25.75, SD = 8.50). Users had an average "friend count" of 669.62 (min = 165, max = 1399).

1 b) Typologies

Five different FB user-types categorize the major activities of the participant. The typologies are: i. Observer

The user spends a significant period of time examining the profiles of other users, and comments on others" status updates, profile pictures, and locations.

2   ii. Scrapbooker

The user posts photographs of family, friends, and corresponding descriptions on their own profile, emphasizes activities in which they participated, such as social outings.

3   iii. Activist

The user provides information on and supports political issues, and environmental or ecological causes. These may include participating in or organizing events for organizations.

4   iv. Entrepreneur

The user presents business-related activities, sales, products, or entertainment references. This may include promotion of consumer products or business enterprises.

5   v. Social Butterfly

The user spends the majority of his/her time communicating with others. This may include commenting on friends" posts and pictures, as well as replying to messages.

6   G

The last ten posts on each selected Facebook profile were coded over the past five years using a previously developed coding sheet based on activity commonly seen on Facebook (Vaughn, Warren & Fiebert, 2012). Prior research (Vaughn, et. al., 2012) had found a high level of consistency among those doing the rating, with a kappa reliability coefficient of 0.97. Each posts was categorized into one of the above five categories based on the best fit with coding description.

7   c) Procedure

The selected Facebook profiles were analyzed using the FB Timeline feature in the course of the five years starting in 2012 and going back to 2008. Except for the user who created a FB profile in 2009, all were completed. Only information that was explicitly stated and visible on the profile was used for coding. Demographic data, gender, age, marital status, education, religion, and political views, as well as information on number of pictures uploaded and number of friends were collected.

Coding began with the most recent profile posts in 2012, starting at the current date of profile access. As a nominal level of measurement, each post was first entered into one of the aforementioned typologies. Next, the number of "likes" received for each post was coded, differentiated by whether it was posted by the person under examination or by a friend. Finally, the number of replies on the post was coded, including selfreplies by the owner of the profile or "other" replies by the user"s friends. Then the user"s activities, including "friending," commenting on a post, liking a post, or checking in at a location were examined. While not all information coded was used for analysis, this additional information provided a supplementary snapshot into the user"s activities over the years. After completing the coding for the year 2012, the process of coding posts and activities was repeated four more times, once for each year going back to 2008. When using the Facebook Timeline to code posts from other years, a date near the original date of access was used in the corresponding year to ensure close to one year"s worth of time between coding points.

8   d) Analysis

Analysis for this study focused on FB posts and their typologies. For each profile the number of posts per year per category was entered into a spreadsheet. Next, the absolute difference between each year was calculated starting with the year 2008 and proceeding to 2012. This methodology was chosen because of cancellation effects found with some users" typologies if only the relative differences between years were calculated. Additionally, the absolute-differences methodology paints a clearer picture of activity changes over time. Higher absolute differences reflect more changes across typologies between years, with an absolute-difference of zero meaning no change in typology between years.

Absolute-difference is illustrated by the following example: If a user had ten Social posts in 2008 and six in 2009, the absolute difference would be four. They are totaled across all the years. See Figure 1 for an example subject. The number at the bottom of each column is the total absolute difference per subject. Total absolute difference per subject was entered into SPSS and analyzed against the null hypothesis, that there would be no change in typology activity across years resulting in an absolute difference of 0.

9   G

Scrapbook typology and the Social typology, r = 0.736, n = 8, p < .05, a scatterplot summarizes the results, Figure **??** (next page). No additional correlations were seen between other typology categories. Additionally, an exploratory Pearson correlation coefficient was also computed to assess the relationships between age and changes in typology activity across years. There was a positive correlation was found between a user"s age and

changes in the Entrepreneur typology, r (8) = 0.869, p < .01. Increases in age were correlated with increases in Entrepreneur typology activity. No additional correlations were seen between changes in typology categories.

Results suggest that the number of FB posts per typology-category that users make changes significantly over time in the Social and Scrapbooker categories. The Observer, Activist and Entrepreneur categories showed no changes. A strong, positive correlation was revealed in the relationship between activity changes in the Social and Scrapbook typology (see Figure **??** below). Activity fluctuations in the Social typology are linked to activity fluctuations in the Scrapbook typology. This may be he result of FB users discussing social events before and after an event. Users may be planning events or recapping their experience, thereby contributing to a spike in social posts followed by a tapering off of posts in that typology category. The spike in Scrapbook posts likely results from users posting pictures of their friends from their most recent meetings.

Figure **??** Among Entrepreneurs, as users aged, changes in their activity changed. This maybe the result of establishing careers and working. One of the evaluated users was a full time Yoga instructor who posted information on Yoga classes and related events. Another worked in Biotechnology and posted items on business advances in the field.

Limitations arise when looking at FB profiles of users because of variations in the privacy settings users have for their Timeline posts. Some varied in the number of posts displayed through the Timeline feature, during a specific period reverting to previous years. While examining current users in 2012, post activity was displayed consistently; however, when examining previous users displayed a variable number of posts, with some time lapses between posts.

Future research on Facebook Timeline should attempt to identify and select users who are deemed to actively post using Timeline. In addition, a larger sample size would help future longitudinal studies, allowing activity changes to be grounded in a longer time range each year.

In conclusion, Facebook typology activity across years varies among users. This brief examination into such activity provides a certain perspective on a user"s online social life. The introduction of FB Timeline has opened a door to future investigation.
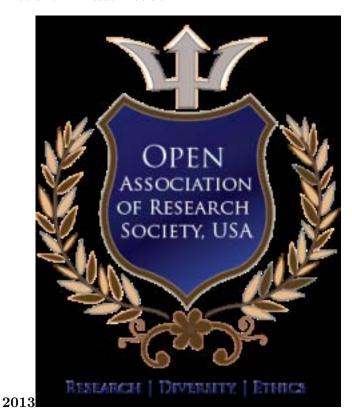
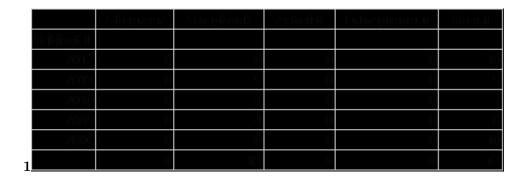Volume XIII Issue II Version I [1] [2]

2013

Figure 1: T © 2013

Figure 2: Figure 1 :

125 [Cnet] , Cnet . com/8301-1023_3-57566550-93/facebook-by- the-...

126 [Fiebert et al. ()] , M S Fiebert , L Tilmont , C R Warren . 2013.

127 [Tam ()] *Facebook by the numbers: 1.06 billion monthly active users*, D Tam . `http://news` 2013.

128 [Vaughn et al. (2012)] *Find Me on Facebook: A New Typology for Categorizing Online Behavior*, E L Vaughn ,
129   C R Warren , M Fiebert . 2012. April. (Poster session)

130 [Alpizar et al. ()] 'Gender, sexuality and impression management on Facebook'. K Alpizar , R Islas-Alvarado ,
131   C R Warren , M S Fiebert . *International Review of Social Sciences and Humanities* 2012. 4 (2) p. .

132 [Introducing Timeline Tell your life story with a new kind of profile] *Introducing Timeline Tell your life story*
133   *with a new kind of profile*, `https://www.-facebook.com/about/timeline`

134 [It"s your birthday!: Greetings as a function of gender and relationship status on Facebook International Review of Social Science
135   'It"s your birthday!: Greetings as a function of gender and relationship status on Facebook'. *International*
136   *Review of Social Sciences and Humanities* 4 (2) p. .

137 [Toma and Hancock ()] 'Looks and lies: The role of physical attractiveness in online dating self-presentation and
138   deception'. C L Toma , J T Hancock . 10.1177/009-3650209356437. *Communication Research* 2010. 37 (3) p.
139   .

140 [Cassidy (2006)] *Me media. The New Yorker*, J Cassidy . 2006. May 15. p. .

141 [Fiebert] 'Research note: The origins of a typology of Facebook users'. M S Fiebert . *International Review of*
142   *Social Sciences and Humanities* (in press)

143 [Lessin (2011)] *Tell Your Story with Timeline*, S W Lessin . `https://blog.facebook.com/blog.php?`
144   `post=10150289612087131` 2011. September 22. (Web log post)

145 [Mcdonald (2012)] *Timeline: Now Available Worldwide*, P Mcdonald . `https://blog.facebook.com/blog.`
146   `php?post=10150408488962131` 2012. January 24. (Web log post)

147 [May and Kwong (2007)] *YHOO: Yahoo! may regret not paying up for Facebook*, M May , K H Kwong .
148   `http://www.needhamco.com/Research/Documents/CPY25924.pdf` 2007. May 10. 2007.