# Facebook's 8 Fundamental Hooks and 6 Basic User Types:

A Psychographic Segmentation.



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#### **EXECUTIVE SUMMARY**

Understanding the different types of Facebook users is the first step to effectively communicating with them and providing appropriate features. Psychographic segmentation is a statistical procedure that first identifies the fundamental value-propositions or "hooks" of a technology, and then derives the user types who respond similarly to those hooks. Partnering with Psychster Inc., students in the University of Washington Master of Communication program in Digital Media (MCDM) applied this method to 236 Facebook users who rated the importance of 90 value-propositions via an online survey. The 6 user types that were found can be remembered by the acronym FBSIGN:

- **Fans** join interest groups based on politics, art, and music, and they often link their Facebook account to other websites.
- 2. Branders prefer public to private networking, and they often use Facebook as a tool for business, building a personal brand, or accumulating social capital.
- **3. Social-Searchers** employ Facebook to learn about news, media, and entertainment, but they show little interest in apps and games.
- **4. Influencers** share videos, links, and good deals with others, and they rarely use the private forms of messaging or sharing available on Facebook.
- **5. Gamers** are motivated by games, apps, and coupons; they interact with strangers as often as acquaintances, and though fewer in number they log the most time on Facebook.
- 6. **Neutrals** are unmotivated by most of Facebook's features including status updates, and they report being members only to keep connected to the events of family and friends.

#### **BACKGROUND AND RESEARCH QUESTIONS**

It stands to reason that the 900 million people on Facebook do not all use the site the same way. Nor are they motivated by the same value-propositions or "hooks."

Recognizing diversity among users is fundamental to targeting ads, developing apps, and attracting followers. Mashable reports that marketers have only begun to leverage the "rich behavioral and activity-based targeting that should increase marketing ROI significantly" (<u>Suryakumer, 2011</u>). Indeed, better targeting will be essential for Facebook to grow its ad revenue at a time when the effectiveness of display advertising, and the price Facebook is able to charge for it, continues to decline (<u>Oreskovic, 2012</u>). Moreover, companies ranging from Zynga, who develops games on the Facebook platform, to retailers like Best Buy and Ann Taylor, who provide customer service via Facebook, will be more effective if they know who they are serving and who they are not.

Psychographic segmentation is a statistical modeling procedure that identifies groups of users who have similar needs with respect to a technology or commercial offering. Whereas demographic segments tell you **who** your customers are (males, females, geographic regions, education level, income), and consumer/behavioral segments tell you **what** they are doing (paying, using free features, returning, recommending), psychographic segments tell you **why** they behave as they do, and what persuasive messaging would best speak to them. This method differs from personae creation in that it is bottom-up and quantitative, rather than top-down and qualitative, but the results are similar: different user segments are identified who may be targeted with distinct messages and offerings that best speak to their motivations.

Students in the <u>MCDM</u> program at the University of Washington performed a psychographic segmentation of Facebook users under the instruction of David Evans Ph.D. of <u>Psychster Inc.</u> This paper reports the findings.

#### METHOD

#### **Data Collection**

The data that are typically input into a psychographic segmentation are subjective ratings, which indicate the importance that users place on a site's many value-propositions and activities. In the present study, an online survey was created for respondents to rate the importance they place on the value-propositions of Facebook. This survey needed to be exhaustive, that is, overlooking no major activities, features, or needs that Facebook offers or fulfills, but at the same time balanced, non-redundant, and as brief as possible. Psychster Inc. first piloted the survey in 2010, which was refined in 2011 by students in the UW Human Centered Design & Engineering (HCDE) department, and again in 2012 by students in the MCDM.

The final survey consisted of 90 rating scales directly related to Facebook activities. An additional 24 questions were asked about general social media usage behavior, self-identity, and consumer activity. All ratings were made on 5-point unipolar semantic-differential scales which variously asked how important, likely, and interested people were in Facebook activities. The scale points were labeled as not at all, a little, somewhat,

very much, extremely. A partial list of the activities that satisfied the criteria for the factor analysis is shown in the table below, and the full survey may be taken <u>here</u>.

Often, data-miners will instead input behavioral metrics such as usage counts or time engaged with various features, rather than subjective survey ratings. This has the advantage of increasing the accuracy of predictive algorithms, but as we alluded to above, it reveals more about **what** users do than **why**, and more about what they are **currently** doing than what they **might** do given their motivations. Thus sometimes it is strategic to first derive segments from subjective ratings (which are also less prone to missing data and more often continuous, enabling the use of simple parametric procedures), and then in subsequent studies, merge the segments with behavioral data, study consumer preferences, and only then develop algorithms to predict the segments from usage alone.

## Respondents

A total of 236 internet users responded to the survey. They were recruited primarily from the Psychster Inc. panel of 28K members of YouJustGetMe.com, a personality assessment application on Facebook and the WWW. Only respondents with a Facebook account were allowed to complete the survey.

The average age of respondents was 38 years old, 74% were women, and 73% visited once per day or more. This aligns reasonably well with a 2011 Pew Internet report (<u>Hampton, Goulet, Rainie & Purcell, 2011</u>) that the average age of Facebook users is 38 years old, 58% are women, and 52% visit daily or more. Our results should be interpreted in light of those sample characteristics, and in addition, only generalized to English-speaking, North American Facebook users.

# Analysis

Once the subjective ratings were collected, the analysis proceeded in two steps.

The first step was to use factor analysis to reduce the 90 value-propositions to a smaller set of "fundamental hooks" where if one activity in a set is found to be important, typically all of them are. We sought a varimax-rotated solution in which all factor loadings exceeded .40 and all factors accounted for at least  $R^2 = 3\%$  of the variance in the ratings.

The second step was to use cluster analysis to identify groups of similar people in terms of how they respond to the fundamental hooks – the psychographic segments. To do this, the factor scores generated in the first step were saved for all participants, and these were submitted to a k-means cluster analysis. For the cluster analysis, we sought a solution that maximized the differences between the clusters and minimized the differences within the clusters (Ray & Turi, 1999).

#### RESULTS

#### What are Facebook's fundamental hooks?

The factor analysis revealed that the exhaustive list of Facebook value-propositions could be reduced to 8 "fundamental hooks." These hooks are sets of correlated activities, where if one is found to be important, the others in a set are usually found to be important as well.

- 1. Media & News Referrals. Learning new media and fashion trends as well as current news stories.
- 2. Social Updates. Seeing, liking, and commenting on others' status updates and photos.
- **3.** Games. Playing games, sharing applications, and sending virtual gifts.
- 4. Groups & Linking. Joining interest groups and linking Facebook to other sites.
- 5. Public Networking. Making public announcements for business or to expand one's network.
- 6. Sharing. Sharing videos and links with the ability to Like and comment on them.
- 7. Invitations. Sending and receiving invitations to special events.
- 8. **Private Networking**. Making private announcements for individuals or groups with special permissions and relationships.

The Table below lists the 64 ratings out of the original 90 which cleanly loaded under one of the fundamental hooks per the criteria set forth above.

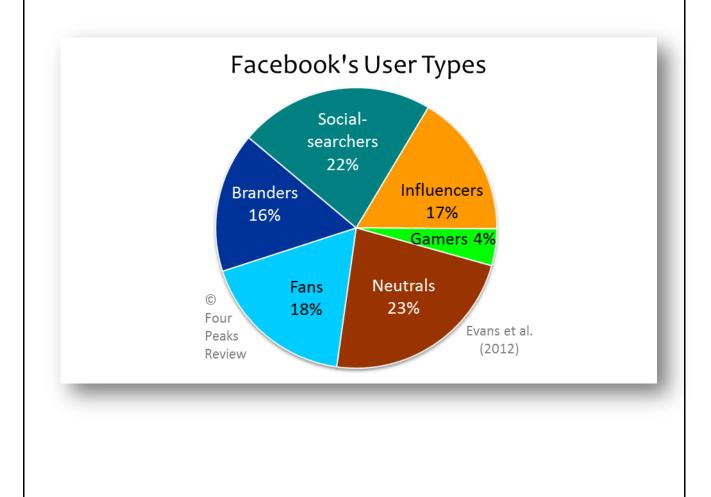
FACEBOOK ACTIVITIES C	ROUPED INTO 8 FUNDAMEN	Evans et al., "Faceboo	<b>-</b>
1. Media & News Referrals	2. Social Updates	3. Games	4. Groups & Linking
$R^2 = 12.2\%$	R <sup>2</sup> = 9.9%	R <sup>2</sup> = 5.5%	R <sup>2</sup> = 5.3%
<ul> <li>Frequently learn about books .78</li> </ul>	<ul> <li>Importance of status updates .77</li> </ul>	<ul> <li>Use FB to play games</li> <li>.73</li> </ul>	• Likely to like politics .74
<ul> <li>Frequently learn about movies</li> <li>.76</li> </ul>	<ul> <li>Importance of status updates that are friends only</li> </ul>	• Likely to share content applications .70	<ul> <li>Join groups based on politics .68</li> </ul>
<ul> <li>Frequently learn about local places .74</li> </ul>	<ul><li>.77</li><li>Likely to like/comment on</li></ul>	Importance of app content .69	• Likely to link accoun to news site .60
<ul> <li>Frequently learn about music</li> <li>.73</li> </ul>	friends' status .77 <ul> <li>Likely to like/comment on</li> </ul>	<ul> <li>Use apps to play games</li> <li>.64</li> </ul>	• Likely to link accoun to info site .57
<ul> <li>Frequently learn about clothing/fashion .72</li> </ul>	photos .71 <ul> <li>Likely to share status</li> </ul>	<ul> <li>Likely to like games .61</li> <li>Likely to like/comment</li> </ul>	
<ul> <li>Frequently learn about blogs/news .71</li> </ul>	updates .68 • Likely to share photos .67	<ul> <li>on app content .61</li> <li>Use apps to give virtual</li> </ul>	
<ul> <li>Frequently get updates about int'l news .71</li> </ul>	<ul> <li>Want photos that are viewable by friends only .66</li> </ul>	gifts .50	
<ul> <li>Frequently learn about travel</li> <li>.71</li> </ul>	<ul> <li>Importance of photos .64</li> <li>Use FB to connect with</li> </ul>		
<ul> <li>Frequently get updates about entertainment news .68</li> </ul>	<ul><li>Friends .63</li><li>Frequently get updates</li></ul>		
<ul> <li>Frequently get updates about local news .67</li> </ul>	<ul> <li>about friends &amp; family .59</li> <li>Rely on FB to connect w/</li> </ul>		
<ul> <li>Frequently get updates about industry news .64</li> </ul>	friends .59		
industry news .64	• Use FB to share my life .59		

5. Public Networking	6. Sharing	7. Invitations	8. Private Networking
$R^2 = 5.2\%$	R <sup>2</sup> = 3.9%	<b>R</b> <sup>2</sup> <b>= 3.6</b> %	R <sup>2</sup> = 3.3%
<ul> <li>Want photos that are viewable by everyone .67</li> <li>Important to status updates that are public .65</li> <li>Rely on FB to connect w/ coworkers .59</li> <li>Use FB for business .52</li> <li>Use FB to expand my network .49</li> <li>Member only for business .46</li> <li>Likely to like celeb .43</li> </ul>	<ul> <li>Likely to share videos .59</li> <li>Importance of videos .55</li> <li>Likely to like/comment on videos .52</li> <li>Likely to share links .44</li> <li>Importance of links .43</li> </ul>	<ul> <li>Important to receive invitations to events .68</li> <li>Important to send invitations to events .67</li> <li>Importance of privacy change notices .53</li> </ul>	<ul> <li>Importance of status updates that are private .59</li> <li>Want photos that are viewable by only me .58</li> <li>Want photos that are viewable by a specific group .46</li> <li>Likely to link account to music site .41</li> <li>Likely to link account to shopping site .40</li> </ul>

## What are Facebook's basic user types?

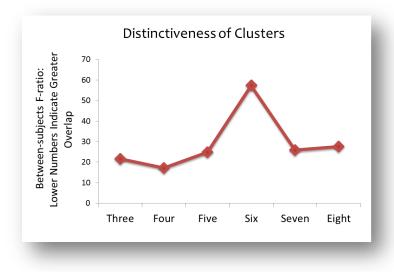
The factor-scores were saved for all respondents, and these were submitted to a k-means cluster analysis. Based on the final cluster centers representing how each segment responded to the fundamental hooks, the segments were named as follows (acronym FBSIGN):

- **Fans** join interest groups based on politics, art, and music, and they often link their Facebook account to other websites.
- 2. **Branders** prefer public to private networking, and they often use Facebook as a tool for business, building a personal brand, or accumulating social capital.
- **3. Social-Searchers** employ Facebook to learn about news, media, and entertainment, but they show little interest in apps and games.
- **4. Influencers** share videos, links, and good deals with others, and they rarely use the private forms of messaging or sharing available on Facebook.
- **5. Gamers** are motivated by games, apps, and coupons; they interact with strangers as often as acquaintances, and though fewer in number they log the most time on Facebook.
- 6. **Neutrals** are unmotivated by most of Facebook's features including status updates, and they report being members only to keep connected to the events of family and friends.



## Are there exactly 6 user types?

We performed several cluster analyses in which 3 through 8 clusters were derived. Each time, the cluster numbers were entered into a repeated-measures ANOVA as a between-subjects variable, and the 7 factor-scores were entered as a within-subjects variable. This way, higher between-subjects F values indicated cluster solutions that were more separate and compact, since F is a ratio of the between-subjects variability divided by the within-subjects variability. All cluster solutions had significant F values; the highest was for the 6-cluster solution ( $F_{5,230} = 57.3$ ). In the smaller 5-cluster solution, Branders and Gamers collapsed into a single group, and in the larger 7-cluster solution, Private Networkers split out from the Neutrals. However, as seen in the graph below, neither the 5-cluster nor the 7-cluster solution improved the distinctiveness found in the 6-cluster solution.



It is also worth noting that a segment much like the Neutrals was clearly present in all solutions. Although some researchers will request fewer clusters upon seeing groups such as this, on the argument that this group represents "concept rejecters" who would never be a true user or customer, we felt we had no choice but to report this segment due to its persistence. It suggests that some people are members of Facebook without being fully motivated by any of the hooks (more below).

# How do the user types differ?

In what follows, we look at each segment in detail, summarizing what we know about them by the items on which they scored higher or lower than all the other segments. The bar graphs in the following pages can be thought of as profiles showing how each cluster responded to the 8 fundamental hooks. They plot the final cluster centers, which as we mentioned, were based on the factor scores. Because they have an overall mean of zero, bars above the axis indicate that a given cluster found that hook to be more important than average, and bars below the axis indicate they found it less important than average.

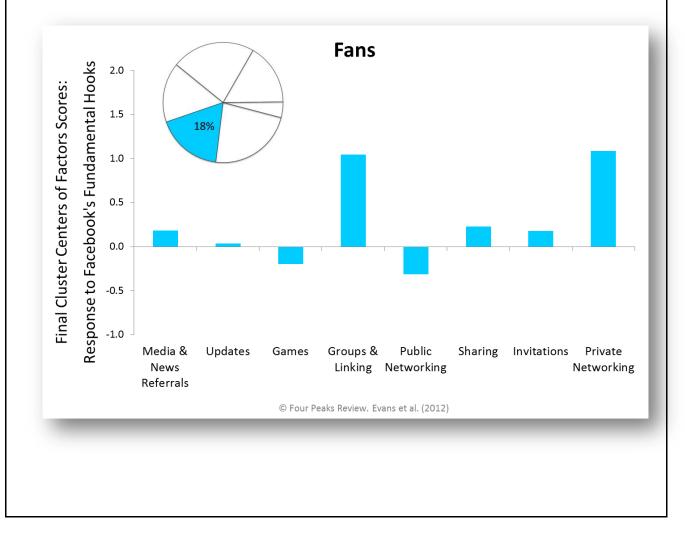
### Fans

The two dominant behaviors shown by Fans were joining interest groups and linking their Facebook account to other websites using Facebook Connect. Often, the groups they joined were based on political interests, but they also joined groups defined by sports, music, media, and brand names. When this segment shared photos, they often set them to be viewable by a specific group rather than the public.

Whereas other segments might not see the appeal of Facebook Connect, whereby users can see which of their friends had viewed and commented on news articles and other sites around the web, for Fans this makes perfect sense. Fans belong to a group that holds personal meaning, whose solidarity and group identity make it natural to consume news and information on the web together.

Fans are disinclined to use apps, or to make public announcements like Branders, but overall they scored lower than the other segments on none of the survey items. However, they were the only segment more comfortable than Neutrals to be without Facebook for a day or a week.

Fans were more likely to be men than were the other segments.

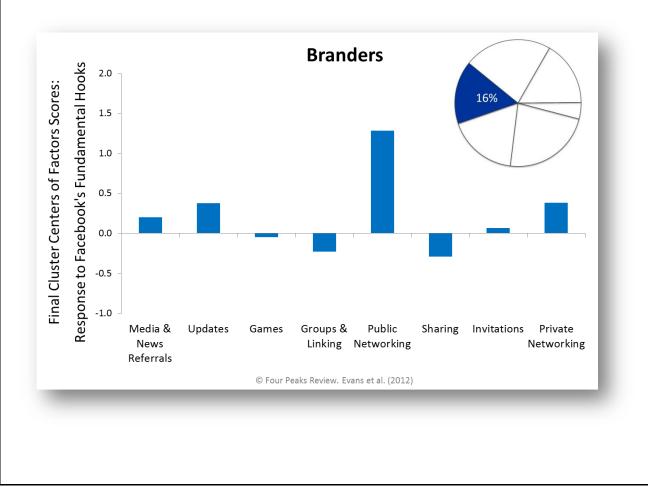


## Branders

This segment demonstrates how users who vary in age may converge on similar psychographic usage patterns. Branders prefer many-to-many public postings and find little reason to communicate something unless it is communicated publicly. Younger users in this segment use Facebook to build a personal brand, while older users engage in many of the same activities to build a commercial brand. The common element is that Branders strive to maintain a positive online image, whether for themselves or their cause.

Thus Branders are simultaneously the most likely of the segments to use Facebook for dating **and** for business (they outscore the other segments in agreeing with the statement "I am only a member for business purposes."). They are most likely to use apps to listen to music, but also to merge postings across LinkedIn, Twitter, and Facebook. All segments use the status updates heavily, but this segment prefers public status updates and photos viewable by everyone. This group also outscores the others in the importance they place on a good profile. This parallelism may shed light on the rapid adoption of Facebook first by teens, and later by businesses: the site held a common psychographic value for both demographic groups.

Branders score lower than the other segments only on questions related to playing games. This further bolsters the view that they approach Facebook as a means to an end rather than an end itself.



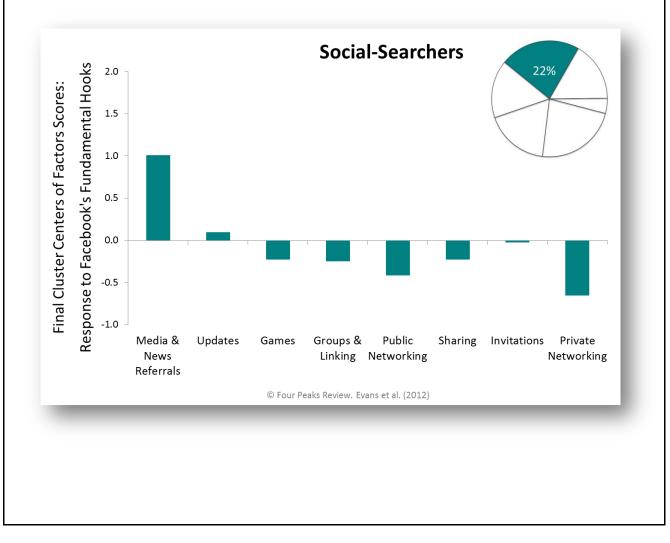
Branders were not extreme in terms of gender breakdown or time spent on Facebook. However, they were the second most likely after Gamers to avoid spending more than a day away from the site.

## **Social-Searchers**

This segment is so named because it uses Facebook to find new entertainment, media, and fashion information. It outscores the other segments on learning about books, blogs, and travel ideas. Social-Searchers also get much of their regional and global news via Facebook through the organizations that they follow. This is consistent with recent findings that the desire to find entertainment sources is a strong motivator to spend time on Facebook (Hunt, Atkin & Krishnan, 2012).

Social-Searchers score lower than the other segments in their likelihood to play games, give virtual gifts, and like Zynga. Thus it is interesting to note that this group is clearly more interested in entertainment media than in interactive media. They are also unlikely to send private messages or photos, or to share links to the entertainment sources they find, suggesting that they consume media more so than recommend it.

Social-Searchers were not one of the most extreme segments in terms of age, gender makeup, or time spent on Facebook.



# Influencers

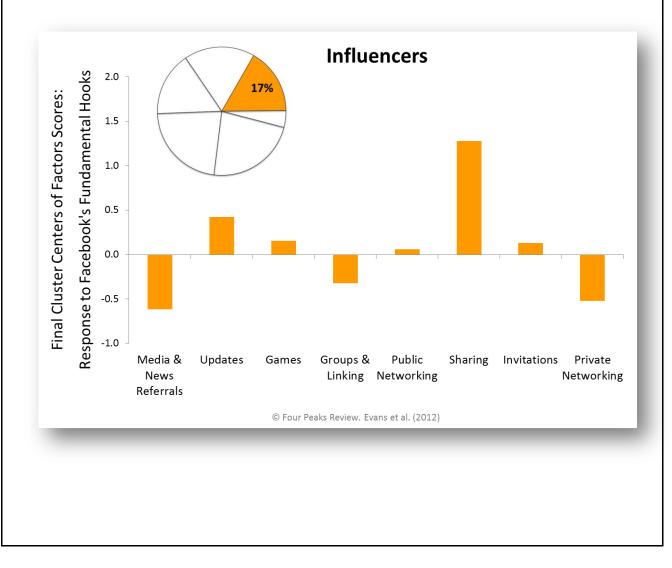
Influencers are strongly motivated to share the media they come across on Facebook, perhaps more so than even enjoying it themselves. This tendency sets them apart from Social-Searchers, who consume media but aren't strongly inclined to share it.

Influencers outscore the other segments in sharing videos and links, and they will also pass along good deals and original apps. They shop online, but this is not their dominant motivation, as they also place great importance on photo sharing and commenting.

Influencers are the least likely of all segments to report they are a member of Facebook only for family connections or only for business reasons. They prefer to receive photos that do not have privacy restrictions, perhaps because these are difficult to pass along.

Future research would be needed to demonstrate that Influencers are in fact "Influentials," as this would require evidence that they persuade others or otherwise cause a shift in their attitudes or behavior (see <u>Watts</u> <u>& Dodds</u>, 2007).

Influencers were the most likely of the segments to be women.



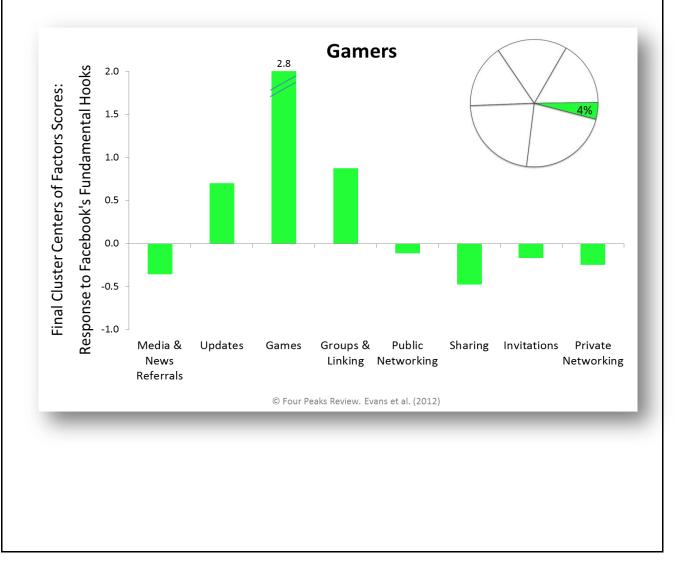
### Gamers

Not surprisingly, Gamers play games more than the other segments, but in fact they outscore the other segments on over half the items in the survey, revealing a segment that represents the most enthusiastic Facebook users. Fully 40% reported that they spend 120 minutes or more on Facebook on a typical day; they reported visiting the site an average of 6.8 of the last 7 days; and they scored the lowest of the segments on "being fine without Facebook" for a day or a week. With these figures, it is not surprising that game maker Zynga contributes 15% of Facebook's revenue (<u>Cutler, 2012</u>).

Gamers' passion for points spills over into commercial areas, perhaps fueling proponents of "gamification" as a marketing initiative. For example, Gamers are most likely of the segments to check in to locations to earn points for services such as Foursquare, and to endorse brands. They also seek coupons and deals, in part by liking tech, sports and entertainments sites, and by accepting invitations to events.

Gamers are disinclined to listen to music via Facebook apps, and they don't seek dates on Facebook, use LinkedIn, or even make online purchases as much as the other segments.

Gamers were tied with Neutrals for being the oldest segment identified.

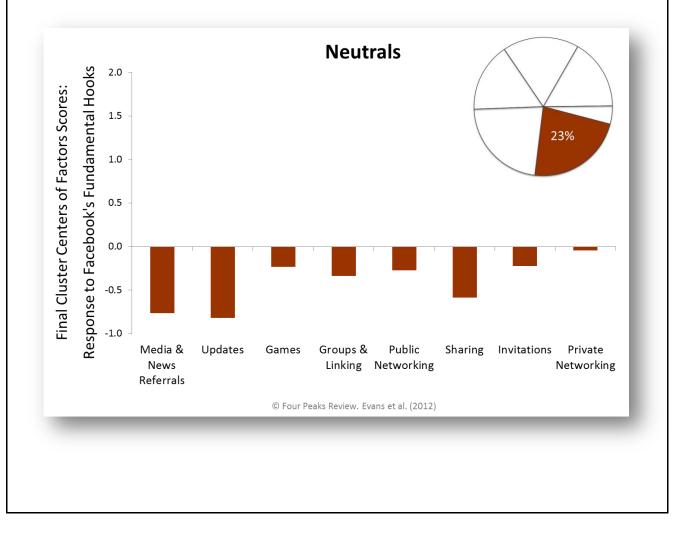


## Neutrals

Neutrals scored the lowest of the segments on 105 items of the survey, giving one to wonder why they are members of Facebook at all (it was a requirement to complete the survey). And yet 23% of the sample fell into this group, despite the fact that our sample skewed somewhat more active than that of a recent Pew Internet report (Hampton et al., 2011). Most surprising is that Neutrals aren't even interested in status updates, which is a key activity binding the other Facebook features together. The contradiction found in being a member of a site whose features hold little or no appeal led us to name this group "Neutrals" rather than "Negatives."

The explanation comes from one of the few items on which Neutrals did outscore the other segments: "I am only a member of Facebook to avoid missing out on my family's/friends events." In an interesting twist on Metcalfe's Law (<u>Gilder, 1993</u>), which holds that the value of a network increases exponentially with the number of users, the social value of Facebook to Neutrals has apparently become so great that it outweighs the lack of appeal of the site activities. Indeed, <u>Wilson, Gosling & Graham (2012</u>) recently reported that one of the biggest motivators to joining and visiting Facebook was to keep track of others' birthdays, or to thank well-wishers after one's own. A Neutral uses Facebook to avoid being out of the loop on others' lives, if for no other reason than to be prepared for their next face-to-face encounter.

Neutrals are tied with Gamers as the oldest segment, and predictably, they are least concerned by being without Facebook for a day or a week.



### Will the distribution of user types vary across samples?

Undoubtedly they will. The proportion of user types that we found in our sample can be expected to vary among, for example, followers of different organizations, users of different features, and respondents to different marketing messages. When considered in context, practitioners often **want** their samples to be dominated by one segment rather than be distributed like their audience as a whole, as this is a suitable definition of, and evidence for, successful targeting. Although our data suggests that Gamers will continue to be found to be the smallest of the segments, we cannot at this time report with confidence the true percentages among all Facebook users. However, this question may be more academic than practical.

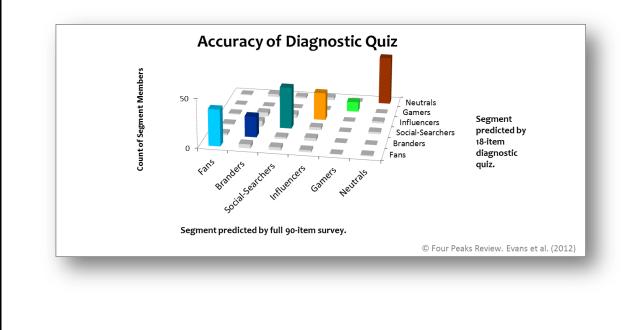
#### How can the types be targeted?

Targeting starts with deciding whether you prefer to (a) assess the segment of a smaller number of users with higher accuracy or to (b) estimate the segment of a larger number of users with lower accuracy. The former uses self-report, and the latter uses behavioral algorithms. Even when behavioral estimations are chosen, it begins by merging a large sample of self-reports with back-end data.

To facilitate this, we developed a brief diagnostic quiz, which appears in the appendix. It consists of the 18 items out of the original 90-item survey that most accurately predicted the segments, and in the same proportion.

This was done by creating 6 new binary variables that represented users' segments, and then using logistic regression to find the beta weights for all 90 original survey items predicting each binary variable. From these, 3 items were chosen for each of the 6 segments whose beta weights were maximally positive for one segment and maximally negative for the others. This subset of 18 items was again entered into a regression model predicting the 6 binary segment variables, yielding a linear scoring formula for each segment. All individuals are scored with all 6 formulae, and coded as belonging to the segment with the maximal result.

A simple cross-tabulation showed that the 18-item quiz resulted in the same segment as the 90-item survey for 80% of the sample. This good-to-high accuracy is suitable for use in further research.



#### What segment are you?

Individual readers may learn which segment describes them best by completing the diagnostic quiz at <u>http://psychsterdata.com/fbsign/quiz.php</u>.

where you can complete the above quiz and have us email you your segment.

## DISCUSSION

## What practical action does this exercise enable?

The following chart summarizes the suggested targeting, messaging, and marketing approaches that one might take with this new information about the diversity of Facebook users.

Segment.	Targeting.	Messaging.	Marketing.
	Find them	Tell them	Sell them
Fans	joining interest groups and linking to other sites.	you're one of us; we see things the way you do (belonging).	memberships, political action, donations to non- profits.
Branders	making company pages and public posts, using apps for music, dating, and sports.	you're on to something; you and your cause look interesting (esteem).	marketing and awareness strategies, business tools, online dating.
Social-Searchers	reading news, gossip, and reviews of books, travel, and local places.	you must see this, don't miss out (trends and innovation).	news and entertainment media, fashion tips.
Influencers	posting, forwarding, liking, and commenting on links, photos, and videos.	you always have the most interesting recommendations, people are listening to you (status).	insider alerts and feeds, influencers scores, media.
Gamers	playing games, looking for good deals and people to play against online, spending lots of time on the site.	kill some time, and who knows, you may win something (random reinforcers).	games, apps, daily deals, tech.
Neutrals	reading but not posting, restricting their activities to birthday wishes and event invitations.	stay in the loop (security and belonging).	birthday, invitation aps, possibly for mobile, games; migrate them to another segment.

Of course, more research is needed to verify the on-site behavior and shopping preferences of the segments. To do this, readers simply need to field the diagnostic quiz together with additional questions about product awareness and use. We would enjoy learning the results of such efforts if they are undertaken.

In the introduction, we mentioned the new trend of using Facebook as a platform for providing customer service (see <u>Kaye, 2012</u>). Though not yet conclusive, the results of this study suggest that companies who do this may reach more Fans and Gamers, who tend to join groups and Like corporate pages, perhaps more so than Influencers who do not. If so, this would temper the word-of-mouth benefit that companies might strive for by providing customer service on Facebook. This notion is very speculative, but it is dynamics of this kind that are revealed by psychographic segmentations.

The segments reported here were identified empirically, that is, in a bottom-up fashion by analyzing data without presuppositions. However, students of user behavior may recognize some themes that have been discussed for some time. We are unsurprised that Facebook users in general, and this survey in particular, echoed widely observed patterns in the way we use social media, including connecting with others with similar interests, personal branding, social search, recommending and influencing, gamification, and the emerging social pressure to be a part of the online conversation.

Although Facebook's tagline emphasizes only the first of those uses (connecting), its unmatched reach and even more incomparable stickiness, and its ability to satisfy the diverse segments found in this research, suggest that it does far more than social media. To a large extent it offers users many of the most compelling value-propositions of the web as a whole.

#### REFERENCES

Cutler, K. (2012). Zynga contributed 15% of Facebook's revenue in Q1, down from 19% a year ago. Techcrunch. Retrieved July 12, 2012 from <u>http://techcrunch.com/2012/04/23/zynga-made-up-15-of-facebooks-revenue-in-q1-down-from-19-a-year-ago/</u>.

Gilder, G. (1993). Metcalfe's law and legacy. Forbes ASAP.

Hampton, K.N., Goulet, L.S., Rainie, L., & Purcell, K. (2011). Social networking sites and our lives. Pew Internet & American Life Project. Retrieved July 12, 2012 from <u>http://pewinternet.org/Reports/2011/Technology-and-social-networks.aspx</u>.

Hunt, D., Atkin, D., & Krishnan, A. (2012). The influence of computer-mediated communication apprehension on motives for Facebook use. Journal of Broadcasting & Electronic Media, 56, 187-202.

Kaye, K. (2012). Telecom firms are most responsive on Facebook. ClickZ. Retrieved July 12, 2012 from <u>http://www.clickz.com/clickz/news/2187636/telecom-firms-responsive-facebook</u>.

Oreskovic, A. (2012). Facebook comments, ads don't sway most users: poll. Reuters. Retrieved July 12, 2012 from <u>http://www.reuters.com/article/2012/06/05/net-us-facebook-survey-idUSBRE85400C20120605</u>.

Ray, S. & Turi, R.H. (1999, December). Determination of number of clusters in k-means clustering and application in colour image segmentation. Proceedings of the 4th International Conference on Advances in Pattern Recognition and Digital Techniques (ICAPRDT'99), Calcutta, India. Narosa Publishing House, New Delhi, India, 137-143. Retrieved July 12, 2012 from http://www.csse.monash.edu.au/~roset/papers/cal99.pdf .

Suryakumar, P. (2011). Making data relevant: the new metrics for social marketing. Mashable. Retrieved July 12, 2012 from <u>http://mashable.com/2011/01/11/social-media-metrics/</u>.

Watts D.J., & Dodds, P.S. (2007). Influentials, Networks, and Public Opinion Formation. Journal of Consumer Research, 34, 441-458, 2007.

Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. Perspectives on Psychological Science, 7(3), 203-220.

# **APPENDIX: DIAGNOSTIC QUIZ**

	not at all	a little	somewhat	very much	extremely	
	1	2	3	4	5	
q1	How likely are you	u to link your FB to ne	ws sites?			
q2	How interested a	How interested are you in joining FB groups based on political interest?				
q3	How important is	it for you to be able to	o create photo albums o	n FB that are viewable o	only to you?	
q4	I am only a memb	er of FB for business p	ourposes.			
q5	How likely are you	u to Like or Comment	on FB photos?			
q6	How likely are you	u to link your FB accou	int to shopping sites?			
<b>q</b> 7	How frequently d	o you use FB to learn	about new books?			
q8	How likely are you	u to Like or Comment	on FB friends' status upo	lates?		
<b>q</b> 9	Thinking of the re	asons you use FB, how	v important is it to you to	o read news online?		
q10	l use FB applicatio	ons to get deals.				
q11			edia (music, books, photo	os).		
q12	How likely are you	u to share videos on Fl	B?			
q13			ent from applications in t	he most recent and top	news feeds?	
q14		ons to give virtual gifts				
q15		to Like pages about				
q16	-	y connected to cowor				
q17			ing out on my family's/fr			
q18	Thinking of the re	asons you use FB, how	v important is it to you to	o connect with friends a	and acquaintances?	
orand 0.385	er Score = (-0.464* *q8)+(-0.176*q9)+		19*q3)+(0.338*q4)+(0 *q11)+(0.042*q12)+(0.			
ocial-	Searcher Score = (	(128*q1)+(927*q2	)+(-0.707*q3)+(0.462*	<sup>-</sup> q4)+(-0.34*q5)+(-0.7	13*q6)+	
		(1.335*q9)+(-0.583* (052*q17)+(.461*q	q10)+(-0.795*q11)+(8 18)+(7.648).	21*q12)+(.433*q13)+(	-9.812*q14)+	
nflue	n <b>cer Score</b> = (-0.28	8*q1)+(-0.553*q2)+	(-0.359*q3)+(-0.223*q	4)+(1.006*q5)+(-0.97	3*q6)+	
-0.971	*q7)+(-0.107*q8)+	(-0.456*q9)+(1.762'	*q10)+(0.855*q11)+(1.5	55*q12)+(794*q13)-	+(-10.448*q14)+	
461*0	q15)+(016*q16)+(·	946*q17)+(.088*q	18)+(6.833).			
			8*q3)+(-4.775*q4)+(5.			
		(-12.264*q10)+(-5.15 <sup>-</sup> 7)+(-3.712*q18)+(-36	1*q11)+(4.034*q12)+(1 <u>9</u> .235).	5.599*q13)+(39.201*c	14)+(10.347*q15) <sup>.</sup>	
leutra	al Score = (211*a1	)+(.136*a2)+(-1.258*	<sup>-</sup> q3)+(567*q4)+(-0.99	2*a5)+(-0.755*a6)+(	-1.91*07)+	

```
Neutral Score = (-.211*q1)+(.136*q2)+(-1.258*q3)+(-.567*q4)+(-0.992*q5)+(-0.755*q6)+(-1.91*q7)+(-1.642*q8)+(-0.959*q9)+(-1.628*q10)+(-1.827*q11)+(-1.784*q12)+(-0.498*q13)+(-7.638*q14)+(-0.813*q15)+(0.621*q16)+(0.45*q17)+(-0.809*q18)+(34.729).
```