

# The Gap Between Producer Intentions and Consumer Behavior in Social Media

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## ABSTRACT

It can be difficult for social media users to tell who is paying attention to what they post. As producers of content, Facebook users make assumptions about who will be part of their intended audience. However, when the same user's role shifts to that of consumer, the criteria for consumption depends on factors outside of the original producer's control. This creates a gap between producer intentions and consumer behavior; producing content that is actually consumed by one's intended audience is neither guaranteed nor easily confirmed.

## Categories and Subject Descriptors

H.4.3 [Communications Applications]: Information browsers; H.3.5 [Online Information Services]: Web-based services

## 1. INTRODUCTION

In a social media system like Facebook or Twitter, it can be hard to know whether anybody from one's *intended audience*—"the people who I want to see what I post"—is paying attention. Unlike like communication technologies that support explicit turn-taking (email, IM, video), contributions to "social awareness streams" largely do **not** consist of messages exchanged between senders and recipients [3]. Social media systems also do not operate under the traditional one-to-many broadcast model (radio or TV), where *audience* means passive spectators and there is a clear distinction between the source of the content and those who are consuming. Instead, for any given piece of content contributed in social media there is a *producer* (the person who posted the content) and possibly a *consumer* (the person who attends to the content), and each user plays both roles. The existence of a consumer for an individual contribution is not a given; in fact, at a recent media event representatives from Facebook claimed that "the average news feed story from a user profile reaches just 12% of their friends"<sup>1</sup>.

Our beliefs about who is listening affect our assumptions about aspects of the context in which a contribution takes place, such as

what information we can count on having in common with a conversation partner. We tailor what we say for who we think is listening, and what we think those listeners know [5]. In addition, people expect others with whom they've interacted to have paid more attention during that interaction than they actually do [1], leading to mistaken assumptions about the amount of shared knowledge they can take advantage of when making future contributions. People also overestimate how well they communicate with people they feel close to. We assume those people are more like us than they actually are, and therefore don't work as hard to monitor their perspective and understanding as we do with people we don't know very well [4].

Reports from previous research investigating contributions and audience in social media indicate that people tend to expect their strong ties—close friend and family—to be consumers for the content they post. Lampe et al. [2] looked at changes in Facebook users' perceptions of audience between 2006 and 2008. They found that Facebook friends (hereafter referred to as FB FRIENDS) who interact with each other offline were the most common perceived audience. Stutzman and Kramer-Duffield [6] similarly found that producers' "expected audience", or the people one expects to be viewing one's Facebook profile, consist mostly of strong ties, defined as best friends and family members. However, strong ties are typically a minority of one's FB FRIENDS, and a given contribution is likely to be much more widely consumed.

Many of these studies consider production OR consumption, separately, which introduces an artificial separation of roles. In reality, social media users are both producers and consumers. Studying them separately makes it more difficult to see the connections between producer and consumer behavior that might allow us to understand the system-level dynamics at work. In this project, we set out to answer questions about what producers post, who they intend to see different types of posts, and why consumers' choose to pay attention to some posts and not others. We also compared what people told us about their production and consumption behaviors to discover ways in which consumer attention might (or might not) line up with producer intent.

## 2. METHOD AND PARTICIPANTS

We conducted 15 semi-structured interviews (5 men, 10 women) between May and July 2011<sup>2</sup>. Participants were adult users of Facebook who had at least 100 FB FRIENDS; who posted status updates at least once per week, on average; and who worked in industries not directly related to social media (or the study of social media).

<sup>1</sup><http://techcrunch.com/2012/02/29/facebook-post-reach-16-friends/>

<sup>2</sup>At the time we conducted the interviews, Facebook had not yet introduced "Timeline". It was also not yet possible to "unfollow" a post one has commented on, or "unsubscribe" from a person. Finally, the "audience selector" and "tag review" for posts had not been implemented.

Recruiting took place via snowball sampling using Facebook messages and status posts, starting from FB FRIENDS of members of the research team who were asked to pass on the recruiting messages to others in their networks. Strong ties and recent colleagues of the researchers were not eligible to participate. We sampled with diversity in mind, so that participants would be able to provide data about a variety of experiences and perspectives. Participants had 182 to 1158 FB FRIENDS (M=526, Mdn= 454). Five participants were undergraduate or graduate students (P09, P12-P15) and two were university professors (P07, P08). The others were a nursing home dietician (P01), a domestic caregiver (P02), a policy researcher (P03), an Army officer (P04), a recent college graduate employed part-time (P05), an office manager (P06), a librarian (P10), and a product manager (P11).

Interviews were conducted via telephone and screen-sharing using a service called join.me, so that the interviewer could see the same information as the participants during the interview. Participants answered general questions about how they used Facebook, “friending” and “unfriending”, and their recollections of inappropriate behavior on Facebook. We also asked questions about the background, context, and inferences about intentions and audience surrounding posts and comments participants had produced (i.e., their “Wall”) or consumed (i.e., their “News Feed” containing content authored by others).

Interviews were recorded and transcribed, and the transcripts were anonymized. The transcripts were coded using an inductive approach. All members of the research team participated in open, iterative coding to develop the coding scheme, during which time the team met frequently to discuss and revise the codes. This early coding stage focused on labeling and categorizing participants’ behaviors and attitudes regarding producing and consuming content on Facebook, and their interactions with other users. The final coding scheme was applied to a single transcript by all members of the research team. We met to resolve differences, and the remaining transcripts were coded by one person each. In later stages of the analysis, high-level themes emerged as connections were drawn between codes, participants, and production/consumption behaviors.

### 3. FINDINGS

Below we describe the types of Facebook posts our participants reported making in their role as “producers” and who was in their *intended audience*; in other words, who they said they wanted to see these posts. Then, we present reasons these same people reported for paying attention—or not—to posts contributed by their FB FRIENDS. Finally, we highlight a gap between the intentions of producers, and consumers’ reported behavior. This gap has implications for the dynamics of content creation in social media.

#### 3.1 What Producers Post

##### *Information about their activities.*

Participants reported contributing posts to make others aware of what is going on in their lives and to stay visible to people in their network. For example, P11 contributed a post to keep others updated on how he’s doing: “I put [a post] on just so people would know we made it to [destination]<sup>3</sup> safely... So this was in part for the people who live out there, this was in part as a shout-out to my wife for doing part of the driving, but for mostly just so people knew that we got there safely.” Another participant posted a status updated for the mother of one of her child’s friends, to keep her updated on what was happening during a playdate: “We had a friend over and I knew his mom was checking Facebook and I wrote that

the kids were bored and I gave them a cardboard box to play with because I knew she’d get a chuckle out of it... I posted it mainly for my other mom friends because I thought they would think it was funny” (P2). Some participants, like P3, used Facebook as a way to keep distant friends and family members up-to-date on their daily activities: “I’m out and about in [location] where I live and if something interesting happens or I’m doing something fun then I will upload photos. Part of this is that I have a lot family who are my Facebook friends, so like the person who commented here, that is actually my mom...”

Many participants reported instances where status posts served as an announcement of big news, such as a job change, graduation, pregnancy or birth of a child, etc. P12 stated, “But generally, if there’s any significant life events like passing exams or getting into a specific University or anything, that will get lots of comments or saying like it’s my birthday or whatever, that kind of thing.” Most of these posts reported by our participants consisted of “good news” and were positive in nature. However, P1 mentioned that her posts about [health problems] received a lot of responses, and P7 expressed an opinion that one of her FB FRIENDS seemed to be “fishing for support” when posting “bad news”. Three participants reported feeling like there were some announcements they wanted to hear about in person rather than seeing it first on Facebook or hearing it secondhand from someone who had seen it posted there. P1 put the feeling to words: “Thanks for telling me, I had to find out on Facebook.”

##### *“Found content” for others.*

Other posts participants discussed producing were “found content” such as links, videos and Internet memes that they found interesting or entertaining, and felt like some of their FB FRIENDS might as well. Usually participants talked about these posts both in terms of being provided for others’ enjoyment or information, and also signaling their own interests to others. For example, P4, who was very well versed in current events, said that he likes to share interesting content about politics and causes that he supports. He posted about a particular upcoming event: “So, I like the fact that it is a fund raiser and people may use this in the way to support the [cause] and it’s an event worth supporting. So it’s kind of a double way to share what I’m doing and also let everyone know that I’m interested in that quite a bit.” P5 described a time when he found something online he thought was funny and believed his FB FRIENDS would also enjoy it: “Yeah. So, I was watching a cartoon in the morning... That’s one of my favorites and I know that other people like it so I posted a quote.”

##### *Start or contribute to conversations.*

A few participants indicated that one purpose for some of their Facebook posts was to start an online conversation, or comment thread. In one instance, a participant discussed posting particular remarks simply because he knew it was controversial and wanted to elicit a response: “I was probably being somewhat inflammatory, making some comment about [topic] or something to get a response out of people” (P15). P6 reported that he feels Facebook is more fun when conversations are going on, and so he tries to start conversations: “Anyway, I just thought this was interesting. I’ll post pictures and make a little smart ass comment frequently. But certainly, like, I’m just trying to start a conversion.” One way that several participants mentioned starting conversations is by tagging people they want to see a particular post. P11 described one instance where he did this: “I saw this really interesting story. So I was like, ‘Wow! I wonder what [a FB FRIEND] thinks about this.’ Then posted it hoping he’d follow up.”

<sup>3</sup>Some details have been obscured so as not to reveal participants’ identities.

### *A message to someone in particular.*

Participants reported that they tagged someone in a post to draw the person's attention to the post, or to let the tagged individual know that the participant was thinking of them. For example, P01 indicated posting to Facebook because she wanted to relay a message to specific people she cares about: "One of my girlfriends who I grew up with is back in town to see her sister graduate... I just want to let them know that I missed them and I'm hanging out with them [soon]." Tagging is also used conveniently when wanting to address more than one person: "Sometimes I want to post something on a few people's walls and so I'll just use it to tell them both at once, or sometimes somebody helps me think of something or see something, and so I just give credit where credit is due" (P5). P6 sometimes used tags as an indirect way of telling several people at the same time that he cares: "They're graduating and I like, I really love these guys and so I thought, 'Oh, just tag them and let them know I'm thinking of them.'"

However, in some circumstances despite the fact that a post is specific to someone, it might not include a tag: "I actually posted this and a link to [a FB FRIEND], who is a patent attorney... I wanted to get a patent attorney's take on this on this. He actually responded back pretty quickly in the comments that he'd seen this and posted this [online] a while back" (P11). In situations like this, the producer makes the assumption that even without using the tagging function, the message will reach the person it is intended for.

### *Make a request.*

Our participants described a small number of instances in which they posted a status update that was a request of some kind, to which they wanted a response, or a call to action. These posts included things like asking a question, requesting advice, or seeking moral support. P2 posted something without explicitly asking for help, but with the expectation that some of her FB FRIENDS who are also moms would provide advice about a specific issue: "I just expected other mothers to notice and sympathize, especially the local moms. So, you know, I was hoping for some of them to give me their advice on how they get their kids to sleep." Other participants used their status updates to promote themselves or organizations or businesses that are important to them: "...this is another message about [organization] that I'm involved in. And this, I sort of treated this as partly a personal thing and partly a little bit of marketing. Like reminding people that [organization] is awesome" (P10).

## **3.2 Reasons for Paying Attention**

### *Information-based judgment.*

Every participant reported that they like to consume content that is related their interests. The judgment about whether to pay attention to these posts was based on the information they contained. For P03, posts from her colleagues help her keep up-to-date on issues related to her career: "I often pay attention to the things that [a FB FRIEND] posts just because it's like a professional, like, 'Oh, I should stay up on that'". The information can also be relevant to non-work interests: "[A FB FRIEND] lives in [state] where my wife is from, so I would actually look up that restaurant, see where it was and we're guessing we might go sometime. I am always looking for a new good restaurant to go to" (P04). This type of content allows participants to develop in their profession or serves as a source of information allowing them to plan or act based on what they learn.

Participants also reported using Facebook to find things out about other people. P7 used the content available on the site to learn about the lives of people with whom she is not very close, or that she might not know: "Occasionally I look up people I don't know and I just kind of... I don't know what you'd call it but I click like on

someone I know's profile or a picture. If someone had commented on a friend's picture who I don't know, I click on the picture if it looks interesting. And then I tend to look at this new person's profile. And from there potentially look at their photos or their friends depending on their privacy settings and just kind of profile skip..." She described her consumption of content in this way as fueled by elements of voyeurism: "You know the little snippets of people's lives....there's a certain aspect of voyeurism". P8 also reported this behavior, and described it as an interest in monitoring the environment, with a negative connotation, as if there is something strangely not right about staying informed about goings-on back home when one is out of town: "Facebook stalking. Facebook lets me know what is going on, even though I was in [another country] for two weeks or even though I am out-of-state."

Some participants stated that they have a very clear preference regarding the topic or characteristics of the posts they do NOT want to consume. For example, some disliked getting constant updates about people's activities in online games. Some reported hiding posts from FB FRIENDS that post too frequently, or whose lives are no longer of interest to them. P8 described it this way: "So if I hide them, it's because I've gone a few weeks and their posts had just been, they have a lot of posts, so they're kind of annoying. Or they take up a lot of space and they don't ever, they aren't worth my time to read them or follow links. I've got a couple of friends that are stay-at-home moms, and all they ever do is post about potty training for like months."

### *Person-based judgment.*

Participants were interested in using Facebook to pay special attention to content posted by certain people, usually those the participant cared more about, like family, close friends, or those that are part of a specific social group to which the participant belongs. Those people are only a small subset of one's network: "I've got over a thousand friends on Facebook. But I'm of course closer to some of them than others. So, I'm going to scroll through and find the people who mean the most to me and see what their updates are" (P4). Also, sometimes respondents seek out content from a particular person they are close to they have not seen posts by in some noticeable long time interval: "If I'm worried about a particular friend, I'd go to their profile, scan what they've been up to for the last couple of weeks, what they've been posting" (P8).

However, the content that demands special attention is not always from family or close friends. Sometimes, as illustrated by P05, it is related to a particular topical interest, but it is the identity of the producer—a proxy for what the post is about—that first catches the consumer's attention: "That's interesting because she is a friend of mine, and she is an accompanist of mine, and I know about this concert that she's doing."

As mentioned above from the producer side, announcements and special events are particularly salient for consumers. For example, P14 expressed interest in a post by one of her best friends who had recently completed three years in his job: "I would 'like' this because he is one of my best friends. And wish him congratulations." P07 mentioned a post in which a close friend shares the arrival of a new member to her family: "This one kind of sticks out because it's an important life announcement in one of my good friends."

Ambiguous posts occur when consumers feel like they don't have the background information to understand posts contributed by their Facebook friends. Some find this annoying, but most just expect not to "get" everything they see on Facebook. P03 said, "Just as I am not going to understand everything that people post, I also don't feel the need to make every post explanatory to every single person on my Facebook friend list." P14 reminds us that

Reasons for Producing:	Reasons for Paying Attention:			Intended Audience:
	SIGNAL	PERSON	INFO	
Share personal info		X		Friends/family who want to be "up to date"; <b>others interested in my life*</b>
Share content		X	X	<b>Anyone who finds the content interesting*</b>
Conversation	X	X		People I want to talk to, primarily friends and family
Send a message		X		Specific friends and/or family members
Make a request	X	X		<b>Anyone who can help/answer the question*</b>

**Figure 1:** Cells with an ‘X’ indicate conditions under which the producer’s intended audience might choose to read the contribution. Bold text indicates situations when consumers only decide they are interested AFTER looking at a post, creating a gap between what producers can know about their audience a priori, and the actual consumers.

everyone’s Facebook friends do not have the same background: “something which I post about [home country]... I don’t expect some of my friends from [home country] or [where P14 currently lives] to understand about.” Participants reported skipping over or hiding ambiguous posts, assuming they were meant for somebody else: “[A FB FRIEND] posts things sometimes that I just don’t know what is going on. I don’t know the people he is referencing, or it just doesn’t make sense to me. So, that would be one where I might hide his posts. They aren’t annoying, but I never understand them.”

### Signal-based judgment.

Most participants looked for signals that they could use as de-facto “endorsements” to help them decide which posts to pay attention to. Several explicitly stated the perception that posts with more comments and “likes” are more worthy of one’s attention, given the evidence of others’ interest presented via the interface. However, it was less clear from these interviews whether participants would be able to make this determination based on the post itself, and not the behavioral traces of others. In other words, more attention may make ANY post more interesting. P04, for example, stated that when he notices a lot of people have posted comments to a status update he will look at it. Furthermore, if it has no activity at all, he might not even pay attention to it: “Normally if I see someone’s status update and or especially like an article or a repost that has no comments, I may or may not look at it. But if there are a several comments on there, I am more likely to look at the status update or the comments or the postings.” P15 looks not only at the amount of comments, but also at how much the post has been liked: “I think also because a number of my friends have liked it, it would probably draw attention.”

Participants reported paying special attention to posts that contain links to videos or news when the producer frames the content via a text blurb. This helps consumers know what the producer thinks about the content: “So, the post that generate the most comments I think are the ones with a link. It’s like here’s a link. Here’s what I think about it. What do you think?” (P6). Some participants also mentioned that they use who posted the content as an endorsement as well: “Yeah. I usually don’t click on videos. I don’t really care enough unless it’s someone I know and like a lot of people indicated that it’s worth watching” (P7). P15 took this a step farther, stating: “I think the blurbs make them stand out more. I also think the vast majority of them have a little blurb. It’s rare for me to... I think it’s rude for people to post things without explaining at least briefly why they’re posting them.”

## 4. DISCUSSION

Sometimes when producers contribute status updates on Facebook, they feel like they have a pretty good idea who they are talking to. But there are other times when they put stuff out there for “anyone who might find it interesting”. Producers know there are consumers paying attention, partially, we think, because *they themselves* are consumers, and partially because they receive responses to their own posts. However, there are some posts (in bold, in the table to the left) for which the producer simply cannot know in advance who is going to pay attention—because that is only determined by consumers after the post has already been made, as they are deciding whether or not they are interested. This is the gap we alluded to earlier in the paper, which makes it impossible for producers to personalize and direct these posts to particular consumers. Instead, producers must guess who might be interested, and adapt their behavior on the next post based on whatever response they receive to the current one. Only a few of our participants seemed somewhat aware of this indirect feedback loop.

This research highlights the fact that there are cases in social media when direct feedback on one’s contributions is difficult to come by, and that these instances primarily occur when producers contribute to share information or ask questions, and consumers do not have a close relationship with the producer. The resulting indirect feedback loop affects the dynamics of the system as a whole; imagine if Facebook solely consisted of tagged posts that were meant for specific people with whom shared context was assumed. Reading the posts of FB FRIENDS might become even more voyeuristic and creepy than some of our participants reported feeling like it already is. Or, we might find much less content we feel like we can connect with—because it is all tailored for specific people, not a general audience—and tune out just like people say they do now for posts for which they assume they are not the intended audience.

We chose Facebook as the platform for this research because many, many people visit regularly and contribute posts about wide-ranging topics, for a variety of different audiences. Similar features to the News Feed are available in systems like LinkedIn, Google+, and Twitter; however, the amount and character of participation varies across these sites. We do not suggest that our findings generalize directly to these other systems; rather, we hypothesize that the indirect feedback loop we describe here interacts differently with the specific participation dynamics and system capabilities in each case. Future work will examine the specific mechanisms by which the indirect feedback loop takes place, and its effect on the character and content of producers’ contributions.

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