Re-Sourceful Networks: Notes from a Mobile Social Networking Platform in India

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ABSTRACT

The paper analyzes SMSGupShup, a mobile-centric social networking platform in India. It focuses on a set of dominant users (young, male) who are redefining the nature of micro-blogging and the creation of mobile networking communities. Like many social networking sites, assembling, maintaining and growing social networks are primary behaviours on GupShup. Unlike many others, where maintaining a personalized profile and conversing with a networked community take prominence, users of GupShup show markedly different messaging or broadcasting practices. While captivated by the idea of connecting with people all over India for the first time through the GupShup platform, the primary motivation of users is not conversation, forging a "second life" or building interest groups, but optimizing the networking service to expand one's own group membership. From a qualitative study of user profiles, the paper demonstrates how GupShup can inform thinking about facets of mobile communities in developing countries: specifically, changing ideas about the networking platform as a "second social life" to one of a pecuniary "resource."

KEYWORDS: Social Media, Mobile Social Networking, India, Case-study

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he paper locates the discussion of SMSGupShup¹ (henceforth GupShup), a large mobile social networking platform (MSNS), in the broader social discourses of social networking sites (SNS). The paper argues that the involvement of predominantly non-elite, urban youth in India with GupShup is different from what is usually accepted as standard use of SNS platforms. The paper analyzes the appropriation of an MSNS by certain dominant imaginations of its platform. Initially, users experienced GupShup as a free social networking platform able to connect them across a multilingual India and allow user-driven behaviours to come into play (possibly for the first time through mobile phone, and for the price of an SMS, or one Indian rupee or 2 US cents). These user-driven practices exploit limited technological

The website address of SMSGupShup is http://www.webaroo.com/

possibilities by leveraging whatever is available and open to manipulation. Our research points to some patterns of use that are not only outcomes of platform specifications but also emerge from the socio-economic milieu of non-elite youth in urban India.

The paper considers the unexplored possibilities in studying MSNS in a developing country that is emerging as a major consumer of information and communication technologies and bridges a gap in scholarship about SNS in India. The paper places the research within the framework of debates about the nature of social networks and social networking behaviours. We believe that the GupShup SNS culture is based on the unique affordability of its platform and the behaviours it gives rise to. To put what we consider a very interesting localization of mobile and SMS-centric SNS in a larger context, we adopt insights on the nature of social ties from Granovetter,² cultural rootedness of technology uptakes from Miller³ and the social performativity inherent in networking behaviours from Boyd.⁴ This study attempts to begin an interpretation of social networking behaviours within the specific social and technical conditions of India.

GupShup is frequently viewed by its users as a platform of material or economic consequence. Through conversations with users, we developed a second-order analysis resting on the larger cultural and material premises on which they choose to anchor the GupShup platform. Our small sample indicated that GupShup users are overwhelmingly young and male. Many are college-going and come from low-income families. The possibility of GupShup becoming a resourceful platform for these young and opportunistic youth is supported by our interviews with users. How GupShup became the MSNS for non-elite youth results from the access and affordability of a particular technology. Users felt a relative sense of freedom to exploit GupShup services in ways they thought fit and relevant, despite the limitations of technology and the behavioural codes that GupShup imposed. In this paper we try to explore if GupShup, and its surprising extensions and redirections of use, are a distinct outcome of its SMS-centric technology and its situated-ness in India.

This study has a caveat. Our inquiry focused on group owners who publish regularly and are visible as active users on the GupShup platform. The bulk of users are passive and invisible consumers of content. We do not probe the motivations of millions of users joining groups nor ways in which they

 $^{^2}$ $\,$ Mark S. Granovetter, "The Strength of Weak Ties," The American Journal of Sociology 78 no. 6 (1973); 1360-1380.

Daniel Miller, Tales from Facebook (Cambridge: Polity, 2011).

⁴ danah boyd, "The Significance of Social Software," in *Blog Talks Reloaded: Social Software Research & Cases*, eds. Thomas N. Burg and Jan Schmidt (Norderstedt: Books on Demand, 2007); danah boyd and Nicole Ellison, "Social Network Sites: Definition: History and Scholarship," *Journal of Computer-Mediated Communication* 13, no. 1 (2007): 1-18.

consume content they subscribe to regularly. We elaborate on the possibilities for further research in the method section.

The social networks of GupShup are driven by the requirements of getting a sizeable audience. Assembling, expanding and enlisting membership is a primary goal of a GupShup group owner. How do these communities then congeal around a mobile community or group? The research addresses two areas. The first focuses on platform affordances and actual behaviours of users and contributes to a growing research around social networking in developing regions. The second area investigates specific practices and strategies of group owners to expand networks. SMS GupShup, unlike SNS behaviours in the global North, appears to arise from the cultural milieu of present-day India, as well as from the SMS-centric affordance of the service. (We use the term "affordance" to describe the capabilities that the technology "affords" or makes possible). We describe overall patterns of usage and content as well as some of the underlying motivations that users bring to it. We identify a number of behaviours. In particular, we note the way in which users have overwhelmingly attempted to use it for business or commercial gain, adopting behaviours that optimize reach (number of contacts). Rather than connecting friends or building community, GupShup mainly acts as an informal medium for publishers to build an audience. "Friends" in GupShup are not really friends in any conventional sense, but are akin to members/ associates on the list of a group owner. While group owners are captivated by the idea of transcending geography and connecting with people all over India, the primary motivation is not conversation or building common interests, but rather the potential for commercial gain associated with a large audience. This, in turn, drives many of the unique behaviours we describe in this paper. This mad rush to expand social networks across multi-lingual geographies encourages us to think about the affordances—the possibilities of techno-social capital (rather unorthodox allowances from the perspective of existing research on the subject) and about both the socio-cultural and the material scaffolding of the relationships between human beings and technology.

Background to SMSGupShup

At the time of study, December 2009 to August 2010, GupShup has drawn around 40 million users, with one million users signing up every month. In contrast, the combined total number of users of Web-based services (e.g., Orkut, Facebook, Twitter, etc.) is estimated to be 33 million. Of the 40 million GupShup users, around 3 million have registered group accounts while the rest, around 37 million, do not have accounts and only receive and consume posts via an SMS on their mobile phones. GupShup, though modeled after the popular mobile networking service Twitter, is showing unique appropriation of user behaviours in the last four years of operating

in India.⁵ In order to set up a free SMSGupShup group, a person only needs an email address or a mobile number. Such groups may be private or public, and one user can create up to five groups and join any number of them. The owners of free groups can invite up to 25 users, beyond which membership increases when people "opt-in" and send a "Join Group Name" message to the group owner. Most importantly, group owners may only send messages no longer than 140 characters. The owners of free groups have the option of posting messages to their members through SMS, mobile web or the Internet. Public groups also have homepages that their owners and users can access.

The bulk of GupShup users are mobile-centric and can ill afford Internet access. Many of them hail from the smaller towns and, to a lesser extent, villages of India. While owners can post messages to the entire group, members can only reply to these messages. Most often, replies are in the form of requests that ask the group owner to circulate advertisements among his members to join the respondent's group. There are supposedly 3 million groups on GupShup ranging from 10 members to 300,000 members in each. The group's popularity and membership strength hinges significantly on the types of content the owner chooses to broadcast to his group. (There is a considerable volume of content in English transliterations of Indian languages). The two most popular categories of groups, with memberships ranging between 30,000-300,000, can be brought under the headings of "fun" (romantic messages, poetry and jokes) and "news" (educational and political news). There are two other characteristics that contribute to a group's popularity: 1) types of posts or content the owner chooses to broadcast to his group; and 2) conscious strategies to promote and expand group membership. The latter is undertaken through appropriation of the GupShup platform: a member joins as many groups as possible and posts requests to the owners of these groups to promote one's own group.

Framing SMSGupShup

This section summarizes the sociology of social media and attempts to frame GupShup and its seemingly unique behaviours, which are unlike many other SNSs. It employs three seminal works interpreting social networks and networking behaviours: Granovetter's strength of weak ties in the broad impacts of social networks, Miller's technology rootedness in specific settings defining the nature of its uptake and finally Boyd's understanding of SNSs as continual and sustained social performance. All of these take important interpretative departures in the social networking behaviours on GupShup.

⁵ Nimmi Rangaswamy and Indranil R. Chowdhury, "Micro-blogging and Mobile Chattering in India," paper presented at *ACM Computer Human Interaction Workshop*, "Micro blogging: What and How Can We Learn From It?", Atlanta, GA, April 2010.

SNSs as a critical component of Web 2.0 technologies have shifted the way we use social media. Unlike Web 1.0, which was about forming communities based on interests, Web 2.06 is about self-expression among people, possibly a performance for friends while simultaneously pushing technology beyond what it was intended for.7 The huge expansion of mobile telephony across the globe brought the "second wave" of research that proved the depth and divergence of mobile phone practices. The array of user behaviours coming out of social media may seem disparate, but often is embedded in the broader ecology of social connectivity. To examine SNS effects on our lives "we have to take a step back and view it as its own cultural artifact." It's not enough to say the technology of social media enhances our ability to connect with people all the time. The vast majority of users are there to maintain social relations, keep up with friends and acquaintances, follow high-profile users, and otherwise connect. In short, the majority of people using social media are there to be social.

We take inspiration from Granovetter's seminal paper about strengths of social ties, the connections between large and small and primary and tertiary social networks, and the idea of small-scale interactions causing a flutter in big processes like social diffusion, mobility and cohesion. Interpersonal ties are defined as information-carrying connections between people; they usually come in three varieties: strong, weak or absent. Granovetter argues that weak social ties are responsible for the majority of the "embeddedness and structure of social networks" as well as the transmission of information through these networks. Specifically, more new information flows to individuals through weak rather than strong ties. The notion of a bridge from a strong tie to weak ties—and that bridge enabling information to reach populations and audiences not accessible via strong ties—is very powerful and resonates with our study of GupShup, where social networks are built on weak ties.

Much like in actor-network theory,⁹ the idea that "making a relationship visible also creates that relationship" can extend to the SNS universe. Miller,¹⁰ in a self-confessed "extreme reading" of SNSs, echoes a similar idea about building online social networks as a kind of social "big bang" leading to an expanding social universe through an individual's social networking. In his

Daniel Lewis, "What is Web 2.0?," Crossroads 13, no. 2 (2006): 3.

⁷ danah boyd, "The Significance of Social Software," in *Blog Talks Reloaded: Social Software Research & Cases*, eds. Thomas N. Burg and Jan Schmidt (Norderstedt: Books on Demand, 2007).

⁸ danah boyd and Nicole Ellison, "Social Network Sites: Definition, History and Scholarship," Journal of Computer-Mediated Communication, 13 no. 1 (2007): 1-18.

⁹ Bruno Latour, Reassembling the Social: An introduction to Actor-Network-Theory (Oxford: Oxford University, 2005); Marilyn Strathern, "Cutting the network," Journal of the Royal Anthropological Institute, 2 no. 3 (1996): 517-535.

 $^{^{10}}$ Daniel Miller, "Extreme reading of Facebook," Working Paper Series 5, $\it Open Anthropology Cooperative Press, http://openanthcoop.net/press/2010/10/22/an-extreme-reading-of-facebook/, accessed on 8 September 2011.$

recent book on Facebook in Trinidad, he argues that technology is what people "make it into." ¹¹ Facebook is what it is understood to be in a local context, in this case by Trinidadians. GupShup is what its users want it to be, and these usages can be studied in the context of its technology platform, in the social demographics of its users and finally in the outcomes of these usages.

If social networking is about performativity, then all versions of self are to some degree performative. 12 This leads to the argument that we play a variety of roles in life with degrees of attachment and distance and that digital technologies are equally multi-directional: they need both a digital self and a performativity by that self. And what they are doing online is fundamentally a mix of social grooming and maintaining peripheral social awareness: to know what people around them are thinking and doing and feeling, even when co-presence is not viable. 13 It is this back-and-forth that makes sense between individuals asking questions and directly referencing one another, allowing us to keep our connections going. It's about the "phatic" communication, or small talk, and the gestures, the little updates and the awareness of what's happening in space. We take the implicit nature of this for granted in physical environments, yet online we have to perform every aspect of our interactions. What is performance geared to on GupShup? If, as we argue, remunerative considerations have replaced small talk as a key driver of GupShup behaviour, how are broadcasters performing? The monetary motives, coupled with the potential of the technology, produce a unique Mobile Social Networking Site.

Twitter and GupShup

Any research on an MSNS takes into account the nature of Twitter and the way it impacts on society at large. There is no scholarship available on Twitter users in India. We have used Twitter, as a platform and as a service, to highlight GupShup platform specifications and make observations on its behavioural departures. Though behaviours on GupShup find counterparts on Twitter, it departs considerably from the versatility of the Twitter platform and its behaviours. We noted a few striking differences between how Twitter and GupShup are typically used. First, although Twitter was originally designed for SMS and the mobile phone, Twitter usage is significantly linked to mobile web and PC Internet usage, inviting the nickname, "SMS of the Internet."

¹¹ Daniel Miller, *Tales from Facebook* (Cambridge: Polity, 2011).

¹² Erving Goffman, *Presentation of Self in Everyday Life* (New York, NY: Doubleday, 1959); Sherry Turkle, *The Second Self: Computers and the Human Spirit* (Boston: MIT, 2005).

danah boyd and Nicole Ellison, "Social Network Sites: Definition, History and Scholarship," Journal of Computer-Mediated Communication, 13 no. 1 (2007): 1-18.

Stuart Barnes and Martin Böhringer, "Continuance Usage Intention in Microblogging Services: The Case of Twitter," paper in the *Proceedings of the 17th European Conference on Information Systems (ECIS)*, http://www.ecis2009.it/papers/ecis2009-0164.pdf, accessed on 29 August 2011; danah boyd,

In contrast, GupShup is explicitly tuned for low-end mobile phones, and, based on our interviews, GupShup users belong to a social segment that can ill afford high-end phones. While GupShup operates as a hybrid platform, mixing web, mobile web and texting, our research indicates that more than 80 percent of its publishers employ SMS texting as the only medium of interaction. Owners of large and successful groups tend to be more sophisticated and use other modalities. Further, unlike Twitter, there are two distinct classes of users. Registered group owners are largely equivalent to Twitter users, but there is also a significant fraction of users who join groups without creating a group account. These users are only passive recipients of content. This profoundly affects how the platform is used and leads to specific approaches to social networking behaviour. Second, Twitter is both a conversational (one to one or one to friends) and broadcasting (one to many, fan clubs or celebrity posts) forum. GupShup usage tends to be primarily a broadcast medium with a back-channel of replies. Personal or conversational messages are negligible; messages emanating from publishers address members who remain largely anonymous to the group owner. Though GupShup and Twitter share certain common SNS/micro-blogging features, we find significant variations in messaging content, and community networking strategies. The specificity of GupShup is that the entire network of an individual group owner is dominated by strangers. In fact, the few minor celebrities on the platform have far fewer followers than some of the non-celebrity group owners.

Method

The global processes of localizing technology impose methodological and conceptual challenges to researchers who come from a defined geographic setting. ¹⁵ Methodologically, this means researchers must spend time in this setting in order to get to know—both online and offline—the people who live there. Conceptually, drawing on Wittel's ¹⁶ qualitative approach to networked sociality, researchers must read technological impacts as a layered process on local structures and conditions. How do people who adopt SNS build, maintain and alter social ties? What kinds of cultural and social capital is needed, employed and kneaded?

We conceived and executed the research from November 2009 to August 2010. The initial phase sought to understand:

Scott Golder and Gilad Lotan, "Tweet Retweet: Conversational Aspects of Retweeting on Twitter," proceedings of HICSS-42, Persistent Conversation Track, Kauai, HI: IEEE Computer Society, 5-8 January 2010, www.danah.org/papers/. For a more accessible writing on a background to Twitter, see Bernardo Huberman, Daniel Romero, Daniel, and Wu Fang, "Social networks that matter: Twitter under the microscope," *First Monday* 14, no. 1 (2009).

¹⁵ John Postil, "Localising the Internet beyond communities and networks," *New Media and Society* 10, no. 3 (2008): 413-431.

Andreas Wittal, "Towards a Network Sociality," Theory, Culture, Society 18 (6): 51-76.

- 1. who mobile community owners/publishers were;
- 2. the variety of messaging content; and
- 3. patterns of group expansion and of networking behaviours.

We employed a mix of online and offline research methods to chart SMS GupShup. We adopted two techniques to understand social networking behaviours on GupShup: 1) quantitative analysis of group characteristics (messaging medium, kinds of posts and reply flows, rate of posts); and 2) qualitative profile building of group owners. We focused on behaviours of group owners, who are also active publishers, as opposed to their members or audience. As we mentioned earlier it was difficult to track member participation since many of them choose only to receive messages without owning a GupShup group account, and this prevents any posting activity. We received explicit permission from SMS GupShup to mine their site and recorded verbal consent from interviews. Each interview was recorded and transcribed.

We wanted to get a high-level understanding of the general activity in GupShup. We created a script using APIs provided by SMS GupShup to poll the site for post and reply activity, and collected data for 110 hours. These suggested at least three basic "regimes" of groups based on the number of followers: large number of groups with member size between 10 and 1000, a smaller number of groups with member size of less than 10, and fewer groups with 1000 members or more. We noted specific activity connected to group size and wanted to probe deeper connections between user activity and group size. To that end, we randomly selected 40 groups from each size for further study: large (1000+ followers), medium (10-1000), and small (<10). We then collected activity for only these groups for 9 days. We quantified the mean number of messages posted by a group in a single day



Screen shot of the SMSGupShup website log-in page



Youth sharing and learning to use the mobile phone and internet

from our sample group data and noted that very small groups post very little: groups of less than 10 post around one message per day. As the groups start to grow bigger the number of messages per day increases: groups between 10 and 100 members post around two messages a day while those with numbers between 100 and 1000 post more than 3.5 messages per day on an average. As groups get very large (more than 1000 subscribers), this number drops down slightly to a stable 2.5 messages per day. We conducted a 120-hour crawl of the web site to gauge the following behaviours of group activity: 1. medium of posts; 2. mean frequency of messages posted by our sample groups; 3. mean frequency of sample groups targeted for reply posts; 4. categorization of types of posts (message, reply, re-posts).

We built 44 user profiles from the sampled groups through qualitative methods like telephone conversations with group owners and manually mining group pages on the GupShup site. Each interview lasted 45-90 minutes. This was to understand the variety and content of posts and triangulate data from interviews. We did not speak to any user who was not an active publisher. The profiled group owners were drawn from several content categories: 12 of them were "fun" groups that posted Shayari (poetry), jokes, breaking news and tidbits; 12 of them were news groups that either posted education or regional news; 20 were groups that specialized

in sharing web and mobile-phone-use-related content. We specifically aligned our interviews with quantitative data investigating the rate and flow of posting behaviours. We investigated the social contexts of our subjects to understand their financial and educational status and gauge technical expertise with mobile phones and PC usages. We particularly concentrated on the motivations to form and expand groups and affordances offered by GupShup. In short, we wanted to investigate how and why a specific set of active group owners persist on SMS GupShup.

From profiling of group owners we gathered a) their social locations, b) what they post, and c) for whom (their sense of audience). This gave us a good sense of their purposive networking strategies and expansion of audience. For this research we profiled and interviewed only those users who owned a GupShup group. This leaves out a majority of users who participate by only consuming messages that their groups push out, without replying or broadcasting to the groups. Identifying a group owner on GupShup was possible by mining their website, but there was no way we could identify a group member if s/he did not own and broadcast to a group. Out of the 44 groups we profiled from online data, we held interviews by phone with 31 individuals. Of the 31, 26 were students, all male, in the age group 19-23, 13 of them living in metropolitan Indian cities, 8 living in smaller urban and peri-urban towns in north and south India and two living in villages in south India. One man is a 41-year-old school teacher in a small city in north India; two are male, in their early twenties in Mumbai, both with indefinite employment, one aspiring to be a DJ and the other looking to start an online agency; one is a woman, 22, secretary to a TV actor and one is a man, 26, an office clerk in urban central India. While the students came from low to lower middle-income classes (family annual income in the range of USD \$10,000 to \$25,000) the interviewees who are employed in or aspiring to do paid work fell into a similar income range. Hence we use the term "non-elite" and interpret their motivations in using GupShup as akin to building resource networks. Our findings are based on data from the 44 web profiles and 31 interview profiles. The study did not include recipients who had chosen not to own a GupShup group and were therefore not broadcasters. The methodology to track such people would be different and more difficult.

Building a GupShup Group

A group's popularity and membership strength is nurtured in two key behaviours, namely the types of posts or content the owner chooses to broadcast to his group and the strategies adopted by the owner to promote and expand group membership. GupShup is not only for "egocentric" users, who are active broadcasters of messages (posts), but also for individuals who consume but never post messages. The latter are members of the groups on GupShup and never form or own a group of their own and are never allowed by the platform to publish or broadcast posts.

Active publishers are group owners posting 1 to 12 messages per day depending on the number of groups they own. Much of this falls into two main categories: first, posts related to the main content of the group. The most popular formats are short poetry, jokes, inspirational messages and a variety of regional and national news, borrowed from secondary unattributed sources. The second category of posts are replies to groups that are mainly promotional messages inviting them to join one's own group (only a small number of replies are conversational, informational or a response to a specific post from another group owner or member).

The stand-out features of the platforms are:

- a) the unabashed behaviours promoting one's own group;
- b) the covert advertisements for products and services that GupShup explicitly bans from free messaging services;
- c) the dominance of borrowed or secondary content in the posts; and consequentially
- d) the lack of conversational dialogue between owners and their audience (unlike those on Twitter). However, there is a semblance of conversational behaviours like those in Twitter (re-tweets) when group owners forward or re-post replies coming from the group's members. However it is here that GupShup differs from Twitter: the re-posts or forwarded replies from group members are largely requests to promote their own groups to other groups on GupShup.

The four features focus on user behaviours and strategies to use the platform for expanding group membership for economic gain. This rush to expand group membership needs reflection, not only from a perspective of platform-specific behaviours but also as an indication of a culture of befriending in the Indian milieu. The latter is a more difficult argument to develop, but worth attempting, as the following sections do.

In contrast to services such as Twitter, posts on GupShup are rarely friendly conversations, self-status updates, pinging friends or general banter. Rather, it has evolved a unique mix of content categories. Analysis of the 79 most-joined groups on the GupShup website in April 2010 allowed us to categorize the nature and content of messaging: posts, replies and re-posts. We mined group pages to identify the behaviours of forwarding a reply, or "retweeting." Groups are defined by the kinds of messages they choose to post and broadly fall into three categories: fun, news and tricks. There are other distinctions one could make (the GupShup website mentions 20 group categories), but we choose to highlight these three most popular and prominent categories to capture some of the most interesting behaviours. The "fun" category comprises *Sher Shayari* (popular Hindustani romantic poetry), PJs (recycled jokes), or inspirational quotes for the day; the "news" category consisted of breaking and headline news (political/sports); and the "tricks" category

offered tips and advice on how to use Internet and mobile technologies. Some of the largest groups on GupShup, with membership numbers greater than 100,000, post a combination of such messages. In our analysis of the 79 most-joined groups, 49 (62 percent) belonged to the category of "fun." A group named "Sartaj" had a base of over 200,000 members, one of the largest groups on GupShup, with a majority of posts consisting of jokes, inspirational quotations and poetry (some of them in Hindi transliterated into English), and almost all of the content drawn from secondary sources with unclear copyrighted ownership. Almost all the groups in the "fun" category broadcast popular jokes, poetry and quotes taken from the Internet, or borrowed from oral popular culture and "two-penny" pamphlets or used material taken from posts of other GupShup groups. Thus "Fun" messages were broadcast to an audience that consumed but did not reply.

The news groups are equally large and consisted of 16 (20 percent) out of the 79 most-joined groups. Groups provide news that can be national breaking news in English or regional news in English transliterations of Indian regional languages. A group named "Vignesh" began two years ago under the category "education and campus news." It grew by 2010 to have a membership of over 90,000, mostly across northern India. It broadcasts education and employment news alerts. Group Vignesh had specific content to share; such content was easy to procure, usually from local newspapers and word of mouth from a network of teachers, college students and government employees.

The "tricks" category belongs to a set of groups that specialize in posting tricks or hacking tips either to increase talk time on a mobile phone or access free mobile Internet by inputting various codes via the keypad. Content for this group was usually found by mining the Internet and by scavenging posts from other "tricks" groups on GupShup. These tricks reportedly had intermittent success rates but by and large enjoyed the faith of broadcasters and their followers. Apart from hacking tips the groups also posted basic skills to operate windows, shortcut keys and a range of useful information about websites. We see a growing trend in this category on GupShup.

Importantly, content broadcast over the GupShup platform is not a broadcaster's egocentric banter with friends or people who share an interest. In fact, a person's group is not made up of friends but instead anyone who is willing to join and consume the messages the group owner chooses to broadcast. Group owners clearly do not initiate a dialogue among and between members in the group's network. Rather they perform the function of keeping their audience engaged and entertained. This also ties up with our premise that GupShup behaviours are optimized to populate a network with people (not friends) and to engage the network with jokes, news or tricks to ensure and retain membership.

Networking on GupShup commonly takes the form of following many groups and inviting group owners to follow one's own group. We note

invitations to follow one's group were extended to random group owners who were neither friends nor casual acquaintances. Most common are those pleading to propagate or advertise posts to join one's own group. The more activity there is (e.g., more messages and reply posts per day), the more it helps to maintain and attract members to a group. Broadcast posts offer new content for audience consumption while replies to other groups attempt to accrue membership from their audiences. The flurry of reciprocal behaviour activity—"please join my group and I will join yours"—seems to be a *default* group expansion strategy. This behaviour attains viral proportions with new groups employing similar strategies to expand their numbers.

The reply function on the platform is another route to expand GupShup groups. Reply posts are of two categories: first, a simple request to join one's group (simply a join me message) and second, a direct plea, usually to bigger groups to promote one's group (e.g., "please mention my group in your posts to your members!"). Groups of all sizes receive a flood of replies from smaller groups to promote their specific groups. Most often, replies are in the form of requests that ask the group owner to circulate advertisements among his members to join the respondent's group. Indeed, it appeared that group owners on GupShup joined many groups explicitly to promote and advertise their own group. Many of the new groups adopted a desperate or pleading tone suggesting that their group's membership potential rested solely on garnering the support of other groups. An example from a "fun" group: "Silent Killer rocks and is the funniest group to meet a lot of members. Plz post this ad on your group." Another one from a "tricks" group: "PLZ [Please] help my group *Hackman* and join my group to learn the latest tricks the fastest." Groups belonging to all sizes receive replies from self-promoting groups. The latter are looking for any opportunity to propagate and expand their group membership.

Reposts or forwarded messages are largely replies of self-promoting groups to join them (like the examples from the preceding paragraph). Thus reposts (unlike retweets in Twitter) are not repeating content posted by others using the platform. Neither are they informational, conversational or even personal. Again, these point to unabashed self-promotion to increase group membership. Large groups like Sartaj are inundated with requests to advertise new groups and products. Only a few big groups forwarded or re-posted ads sent by smaller groups in messages to their own members; big groups are choosy about what they promote. We noted the lack of conversational tone or retweets on large groups like Sartaj and Vignesh. Once in a while these groups relented and reposted a request. Sartaj said:

I used to forward these promotional posts in my early days on GupShup when I myself resorted to self-promotion via replies to other groups ... now I've almost stopped doing this. There are so many of these requests...

Smaller groups usually couch their self-promotional replies in direct offers to post advertisements for the groups at whom they target their replies. Here

is an example of this reciprocal behaviour: "Please please dear friend advertise my group for heaven's sake ... I will do my best to advertise yours when I get big like you." Here's another: "i have joined ur [your] grp [group] ... please join my grp and tell ur frnds [friends] also to join ... plz plz plz plz plz plz plz plz plz tAke cAre." There were a few clever tactics adopted by small groups when they replied to larger groups seeking promotions. An interview with Sachin, the owner of the group *internet tips*, a computer/web help group, revealed that a small "fun" group called *Sonu_Rocks* devised a clever way of advertising his group by targeting Sachin's audience. The owner of the aspiring group sent a reply post to "Internet tips" and placed his group name in a footer at the bottom of a message about how "the Internet can be accessed by holding down on the 0 key." He bet on Sachin's interest in forwarding this message to his group, which specialized in Internet-related information. In this case Sachin did choose to forward the message as it suited his group's interest and *Sonu_Rocks* received publicity in a very large group.

Evidence from the study of posts, replies and re-posts pointed to recurring patterns of group behaviours and led us to conclude that in GupShup, expanding group size is an activity preoccupying all groups, especially the relatively new and small groups. But what are the motivations behind these behaviours?

Resource networks

Our research suggests that the dominant motive of users of the GupShup platform is commercial and pecuniary. It is not surprising to see advertisements, direct or in the form of promotional requests, occupying a large chunk of posts. Many are direct promotions of groups, products or services. We also saw posts that were not explicitly advertisements but included offers for barter or deals. For example:

@Krazzyboy can u publish my ad in ur grp?if there is any demand for ad xchange, tell me" or "@PyAaR_AaJ_KaL wanna xchange ad?i have 350+members.reply on 09166858012 with ur grp name and mem."

We note that a significant number of posts in all categories promote products and services through a variety of veiled techniques. The owner of a group called *SpiceNice*, who runs an online start-up, searched the GupShup website to solicit members and groups who might be interested in part-time work and sent them an ad for his company which offers such employment. A TV star's group not only had posts about his career but also posts that marketed a book he had written and where it could be purchased. A group with many members presented a potential business prospect. Sartaj, the owner of a large group mentioned earlier, maintains a personal blog, and Google AdSense on his blog tracks visitors and this in turn attracts several

ads. His personal blog and the GupShup group act as a gravitational pull to expand subscribers and create a unified socio-business mobile platform. The news group Vignesh offered direct employment opportunities, posting contact numbers and websites of individuals who are circulating information about educational institutes, examinations, tutors and computer trainers. Often, we found it difficult to demarcate whether these posts, and others that gave information about educational institutions, were news alerts or advertisements. We decided not to disregard the possibility that Vignesh's business initiatives are alive, though covert, on the GupShup platform.

Coming back to the covert marketing and advertisement activity, we observed reciprocity between replies and re-posts, especially when they were requests to advertise a product or service by a group owner. The group ShahRose, run by Mr. Sajid, one of the small groups we profiled, advertised his online start-up on his friends' groups or groups smaller than his own, while simultaneously promoting these smaller groups by reposting their promotional replies. "The small groups," he said, "were the most responsive in taking up my requests since they too were dependent on the same technique to promote their groups."

Profiling Resource Networks

In this section we offer group profiles based on telephone interviews and groups' posts on the GupShup website. These groups elucidate some of our findings, namely the flurry of posts contributing to the "I have joined your group please join my group" behaviours and the single-minded engagement with group expansion.

Profile Arun

Eighteen-year-old Arun, who lives in a peri-urban town in western India, began three groups on GupShup a little over two years ago. Two of them were "fun" groups while the third was a "tricks" group. His group, called *TricksClub*, had grown to 14,000 in that time, due to what he calls his perseverance and hard work. Much of group expansion came from requests to other groups to join his group and, more importantly, join other groups. He said:

I joined after a friend mentioned the site and realized I just needed a mobile phone to create at least 5 groups and join as many as I want ... I wanted to make friends and could, for the first time, from all over India. It didn't take much time to figure out by joining groups I am increasing chances of these joining mine and even posting ads for my groups...

He continued:

Of course, to grow and maintain a large group we need content to keep members happy and occupied ... I access the web from a cyber café to look for original content (pay not more than USD 2 per month) with flaky wired broad band most of the time the café owner is getting wireless internet from his mobile phone ... I also get content by a similar activity of joining, posting requests and sharing content among several groups.

When asked why he should want to expand his group to include people he may call friends, who he does not know and may never meet, Arun said:

Friends are those who respond to requests. What better way to make friends and ask for small help ... how much would it take to accept, receive and post messages? It may be possible to do so much more with large numbers of people linked to you via a short code.

When asked whether these exhaust the motivations to adopt GupShup, Arun let us in on a parallel activity:

Well ... now that I have 14 K + in my group I ask for compensation to post ads for groups Obviously I cannot ask for cheques or anything that will reveal my address... I ask for an easy mobile re-charge that can enrich my mobile phone's talk time... usually for USD \$2. Yes, I run the risk of exposing my number to these persons but I also have a second SIM card for non-GupShup interactions.

We can only speculate as to the pervasiveness of the informal practice of economic transfer among GupShup group owners, but it appears to be very common. Despite hesitations and denials, 11 out of 31 interviewees admitted accepting mobile phone re-charge transfers and 12 admitted to paying recharges for propagating their groups. One of them told us, "every Tom, Dick and Harry is racing to expand group membership as an opportunity to make easy money and god knows what else is possible in this world of the mobile phone to increase these." The mobile phone is central to the creation, expansion and confirmation of informal business exchanges among and between groups.

Profile Nagesh

Nagesh, 19, who lives in another small town in north India, is a newcomer, with 12 members in his group. He saw a footer ad for GupShup on his cable TV and decided to join since it was free and offered the promise of connecting to people all across India for the cost of an SMS. Nagesh, who had five groups of his own, says:

It was so easy to form groups and collect my friends via GupShup ... also I liked to receive jokes and Shayari and joined some of big groups. ... Well, I get approximately 15 jokes free of charge each day.

Nagesh has little access to a PC and uses mobile web frugally to scan posts in his own and the groups he joined.

I didn't take much time to understand the flurry of activity out there ... since a majority of group members are not account holders and user behavior is restricted to receiving posts via the mobile SMS, the only option for group owners like me is to join and post reply requests in as many groups as one can.

Nagesh admits that he had been asked for compensation from bigger groups to post his group ad but has so far resisted paying. He looks for every way to propagate his group: "I don't know why ... it seems everyone wants to connect to a huge group at click of a button ... and there is compensation thing going on."

The two large GupShup groups, Vignesh and Sartaj, were cleverly using their audience for covert advertising. Vignesh offered information and advertisements directly through his posts, connecting his group of teachers, professional tutors and students; Sartaj's messages were largely oriented towards entertainment, appealing to a specifically young crowd with replies doubling up as ads. While Sartaj attracts and posts requests from diverse groups, Vignesh does not encourage non-educational post requests. Both network through multiple platforms, each feeding on the other; Sartaj points to his blog while Vignesh puts out his email address. The virtual personalities of Sartaj and Vignesh are as different as chalk and cheese but unite in their efforts to increase visibility and specific social networks via the SMS platform. Both perceive the possibilities of enhanced visibility and business opportunity as they cruise through GupShup.

Profiling "Web Help" Groups

Our third category is the "Web help" groups offering tips and tricks on how to use Internet and mobile technologies. These are guided by a set of behaviours that largely correspond to the trends we note above. Dominant behaviours of group owners center on posts to expand membership and keep the audience engaged. Group owners spend a considerable amount of time searching for appropriate content and circulation of information. This happens in two ways: on the Internet and on the GupShup platform by scanning posts in other groups. Group owners browsing the Internet are able to circulate more tips and tricks through the SMS platform. As Abhishek, a group owner with more than 10,000 followers, said:

I browse and fetch content from the big world of the internet ... I also feel much of my audience do not have this kind of access and benefit a lot ... I get a lot of responses on my phone from followers ... Maybe this motivates me more than anything else.

Interestingly, six out of 15 of our profiles hail from a specific region in south India and show evidence of an in-group sharing of tricks which are

then infused into the platform for wider circulation. Benny, the ethical hacker with 20,000 members, said:

I cannot tell you much about us ... we are like a secret society ... we not only fetch tricks from the net, some of us are programmers and coders and we create tricks ourselves ... we pool our resources check out their usability and then put it out for circulation We have quite a fan base in this region.

Deepak, another group owner form the same region, hints at the viral nature of these groups:

I used to search for tricks. That is when I used to contact these people who owned other groups who published tricks. Then I realized I can also open my own group ... Initially I used to search for hacking tricks on the net. When I would search, sometimes the names and numbers of GupShup groups would get reflected on Google. I do it just for fun. I just like to share what I know. I want that whatever tricks I get to know even others should get to know. More and more people get more information about hacking. This way the knowledge of hacking increases ... people liked the content and more people came into this group. ... More of my friends and people around me slowly got to know about this group. My friends may have also spread the word about my group and that is how I have grown.

Sharing tricks and tips was fun, and could be seen as a useful, feel-good, service-oriented activity. But is there another aspect to these popular group behaviours? All our subjects mentioned an informal commercial angle to the activity on "tricks" groups. Groups with good tricks up their sleeve charge money to exchange new tricks. Some "sell" their group to another group owner who is desperate to expand his group. Kannan, one of our subjects, admitted:

Yes, I sold one of my groups with 3000 members to another owner ... I usually ask for a mobile re-charge ... sorry I cannot tell you the amount I charged Mmm ... Ok My friend sold a trick for a 120 INR [2.5 \$US] talk-time recharge for his phone.

Many of our subjects denied they would ever adopt such behaviour for monetary benefit, but all of them admitted knowledge of these practices. They had done nothing to stop or report such behaviour. As one of them said.

I am not party to this but I have no problem with someone doing this ... that's his choice ... I am sort of confused and may be a bit scared to use GupShup in this manner ... Suppose I were to gain 100,000 members, who know what will happen then.

The possibilities and economic outcomes of social networking behaviours are never lost to the user. This prevalent informal economic exchange activity falls completely outside of the purview of GupShup platform services. These unintended consequences of user practices may help explain the behaviour of group owners intent on expanding membership. Moreover, these practices and their real or assumed favourable economic outcomes contribute to the system's expansion and adoption rates.

Conclusion

Indians have enthusiastically taken to GupShup, with millions subscribing every month. The three frameworks we employed to understand networking behaviours on GupShup led us to some answers; but questions remain as to the nature of networks on the platform.

Are the behaviours we observe due to the particular architecture of posting on SMS GupShup and the dominance of SMS as the interaction medium? Or are we seeing something uniquely related to the culture of middle-class India? Rather than connecting friends or building community, GupShup mainly acts as an informal medium for broadcasters to build an audience. "Friends" in GupShup are not really friends in any conventional sense, but are akin to members/associates on the list of a group owner, nonetheless referred to as "friends." While business prospects underline the aspirational use of GupShup, the language of emotion qualifies user activity. It is clear that the language of friendship plays a vital role in spotlighting the exchange of posts and content among group owners. Most of our interviewees mention they wished to make friends from all across India, with people they have never met or talked to, by offering their GupShup group membership. While this may seem a random or non-purposeful behaviour, examination of social networking behaviours on GupShup points to the cultural fit of making a friend out of a group owner (otherwise a stranger) by offering entry to one's network and simultaneously bargaining for access to the friend's network. This contention is supported by the fact that promotional replies and re-posts messaging are greatest in smaller groups. These small groups are most ambitious in wishing to expand membership.

While group owners are captivated by the idea of transcending geography and connecting with people all over India, the primary motivation is not conversation or building common interests, but rather the potential for commercial gain associated with a large audience. This, in turn, drives many of the behaviours we describe in this paper. SMS GupShup represents a fascinating hybrid of communication technologies firmly anchored to SMS, a low-cost and ubiquitous channel in the developing world. As mobile Internet technologies move beyond urban areas and the upper class, it will be fascinating to see how this transforms the use of GupShup. Will it remain as

an informal broadcast channel or will millions of Indians begin to "join the conversation"?

Unlike other SNSs like Facebook or Orkut, or Mobile Social Networking Sites like Twitter, which offer an interactive space for creating a second self (or life), GupShup constrains as well as permits user behaviour. GupShup, by a majority of users, is being used to perform activities that are believed to bring material/economic benefit. Users employ innovative ways to enlist publics to join the platform and be engaged with broadcasts as part of everyday life. Our approach to the study of GupShup usage patterns is not simply to label them as "economic" or "social" (when they may already be both) but to treat the GupShup platform as a "resource" and its usage as an example of "resourceful networking."

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Change in Democratic Mongolia

Social Relations, Health, Mobile Pastoralism, and Mining

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The contributions in *Change in Democratic Mongolia: Social Relations, Health, Mobile Pastoralism, and Mining* represent analyses from around the world across the social sciences and form a substantial part of the state of the art of research on contemporary Mongolia. Chapters examine Buddhist revival and the role of social networks, perceptions of risk, the general state of health of the population and the impact that mining activities will have on this. The changes of patterns of nomadism are equally central to an understanding of contemporary Mongolia as the economic focus on natural resources.