Towards Understanding Social Media: Two Studies Exploring the Uses and Gratifications of Facebook

Tasos Spiliotopoulos*, Mayur Karnik**, Ian Oakley***, Jayant Venkatanathan** and Valentina Nisi*

Abstract   Social networks are commonplace tools, accessed everyday by millions of users. However, despite their popularity, we still know relatively little about why they are so appealing and what specifically they are used for - what novel needs they meet. This paper presents two studies that extend work on applying Uses and Gratification theory to answer such questions. The first study explores motivations for using a content community on a social network service – a music video sharing group on Facebook. In a two-stage experiment, 20 users generated words or phrases to describe how they used the group, and what they enjoyed about their use. These phrases were coded into 34 questionnaire items that were then completed by 57 new participants. Factor analysis on this data revealed four gratifications: contribution; discovery; social interaction and entertainment. These factors are interpreted and discussed. The second study explores the links between motives for using a social network service and numerical measures of that activity. Specifically, it identified motives for Facebook use and then investigated the extent to which these motives can be predicted through a range of usage and network metrics collected automatically collected via the Facebook API. Results showed that all three variable types in this expanded U&G frame of analysis (covering social antecedents, usage metrics, and personal network metrics) effectively predicted motives and highlighted interesting behaviours. Together these studies extend the methodological framework of Uses and Gratification theory and show how it can be effectively used to better understand and appreciate the complexity of online social behaviors.

Keywords: *Social Networks, Uses and Gratifications, Facebook,*

1. Introduction

Social media is core part of the modern Internet experience. According to Forrester research, 75% of Internet users accessed social media in summer 2008, up from 56% in 2007 [10]. More recent figures indicate that between 79% (Europe) and 86% (US) of online adults engage with social media [6] and Facebook, currently the most popular site, reports more than 900 million monthly active users [7]. To achieve this widespread appeal, Social Network Services (SNS) focus on enabling their users to communicate and interact with one another in diverse ways and for diverse ends. Indeed, Facebook excels at this, offering a wide range of features including: browsing user profiles; direct messaging services; casual gaming; posting media content and; participating in online groups and forums. Beyond being highly successful, researchers have argued that SNS's exert a positive effect on the society by, for example, allowing individuals to manage a wide network of weak ties and thus boost their bridging social capital [2]. Others have gone further and suggested that SNS have the potential to fundamentally change the nature of our social lives, on both interpersonal and community levels [4].

However, the rapid advent of SNS has raised questions as to the fundamental motivations driving their use – what makes them so popular and what needs are they meeting? One approach to answering such questions has been to adopt methods typically used to explore the motivations underlying the consumption of more traditional media. In particular, Uses and Gratifications theory (U&G) [21], which relates to the how and why of media use, has been extensively deployed. For instance, Lampe et al. [14] used a U&G approach to show that different motivations for use were associated with different patterns of contribution in online content generation communities. Similarly, Joinson [9] studied Facebook and identified a core set of fundamental uses and gratifications for the site while Park et al. [18] focused on Facebook Groups and uncovered a distinct set of uses and gratifications specific to this feature.

Building on this work, the current paper seeks to extend the scope of U&G analyses of social media sites. It does so by presenting an overview of two recent U&G studies on Facebook that advance current understandings of how this theoretical perspective can be applied to online social media. This first study [11] does this by

* University of Madeira, Funchal, Portugal, e-mail: {tspiliot, vjayant}@gmail.com

** Madeira ITI, Funchal, Portugal, email: {mayurkarnik, valentina,nisi}@gmail.com

*** Corresponding Author: Design and Human Engineering, UNIST, Ulsan, Korea, e-mail: ian.r.oakley@gmail.com

showing how U&G can be deployed to explore specific *unbundled* [M20], or fine-grained, social media features in order to provide more insightful depictions of user's motivations. It does this in the context of a media sharing group, a novel form of highly social content-orientated community. The second study [20] expands the U&G frame of analysis by exploring the value of a range of novel objective measures that are accessible in the context of online social media. Specifically, it investigates the extent to which automatically captured elements of individuals' Facebook network graphs and usage logs can be used to characterize the motivations they report for accessing the site. The remainder of this paper is devoted to briefly introducing U&G theory and describing and discussing the methods and results of the two studies. Readers interested in the full details of the experimental methods and statistical procedures are referred to the original publications [11, 20].

2. Related Work

Media is consumed for a wide range of purposes and individuals utilize different media channels to achieve very different ends [12, 19]. U&G is a theoretical framework for studying these motives and outcomes – fundamentally, the "how" and "why" of media use [9]. A key strength of the approach is its established and broadly applicable frame of analysis (covering media as diverse as tabloids, reality TV and the Internet) that combines *motives* for media use (such as entertainment or social connection) with social and psychological *antecedents* (such as demographics) and cognitive, attitudinal, or behavioral *outcomes* (such as usage patterns) [17].

U&G has recently proven valuable in exploring and explaining a wide variety of social media phenomena including topics as diverse as the motivations for contributing content to an online community [14], explaining why political candidates are befriended [1], and cataloguing the psychosocial well-being of teenage girls [3]. U&G studies have explored behavior on most common forms of social media including content sharing sites (e.g. YouTube [5]), social network sites (e.g. Myspace [1]), and blogs [13].

As the currently dominant SNS, Facebook has been the subject of much U&G research. In early work on this platform, Joinson [9] identified seven unique motives for Facebook use: social connection, shared identities, photographs, content, social investigation, social network surfing and status updating. This study also showed that user demographics, site visit patterns and privacy settings were associated with specific motives. More recent work has continued in this vein and attempted to uncover relationships between motives for Facebook use, antecedents and complex communication outcomes. For instance, Papacharissi and Mendelson [16] found substantial links between Facebook motives, social and psychological predispositions, and the generation of different forms of social capital. Taken together, this work highlights the importance of eliciting and understanding users' motives in social media, as well as the value of employing data from a natural [15] research instrument, like Facebook, for social studies. The work reported in this paper seeks to add to this body of literature.

3. Study 1: Media Sharing Groups

This study [11] explored uses and gratifications of a content community on a social network service – a music video sharing group on Facebook. It did this through creating an open Facebook group called Saturday Morning Classics (SMC) in February 2011. This group takes the form of a forum for posting and discussing "classic" music videos hosted on media archiving websites such as Youtube and Vimeo. As a specific type of content was targeted, the group was seeded with initial media by the researchers in order to develop critical mass in the community [8]. The group was initially populated through direct invitations but later expanded through referrals by existing members and via approving direct requests to join the group. The group's privacy settings were 'Open' so that new members could easily join and current members could broadcast their activities publically on their newsfeeds.

To support study of this group, a Facebook application was developed. This scanned through the group and extracted attributes such as number of posts, relationship graphs within the group and the degree of social interaction (indicated by likes and comments). The open privacy settings facilitated direct access to this data - it was all entirely public. As of May 2012, the group had 167 members, who had posted 833 items relating to classic music from various genres, regions and cultures. These posts elicited 836 "likes" from other members and 355 comments. Behavior on the group was then investigated in a two-stage U&G study. Twenty group members first generated words or phrases to describe how they used the group, and what they enjoyed about their use. These phrases were coded into 34 questionnaire items that were then completed by 57 new participants. Factor analysis (varimax rotation) on this data revealed seven unique clusters, but an evaluation of the Scree plot led to three being discarded. The four gratifications that were retained are briefly described below:

Factor 1 (*Contribution*) contained items that relate to participating in the group by contributing to and commenting on the content. Members reported valuing sharing their knowledge of music by posting videos and participating in conversations around music. These conversations were in the form of comments, often as suggestions about similar or related content or expressions of appreciation about particular media items. This factor relates to users who viewed themselves as collaboratively contributing to an archive of music.

Factor 2 (*Discovery*) contained items that refer to discovery of new music. Items relating to discovering rare songs and music from foreign cultures loaded most strongly. In addition, users valued re-discovering music they had not listened to in a long time. Interestingly, items related to immediate emotional responses also loaded in this factor, suggesting that discoveries often triggered a pleasant emotional response.

Factor 3 (*Social*) contained items related to social aspects of using the group. Receiving appreciation (via 'likes') scored the highest loading while showing such appreciation also featured, although not as strongly. Other items loading strongly related to accessing the public profiles of others and to check for mutual friends of SMC posters whom they did not know.

Factor 4 (*Entertainment*) contained items relating to entertainment. Members appreciated the music genre ("classic") that the group represents. This finding complements Park et al.'s [18] notion that entertainment is a valued gratification reported by users of Facebook groups. Interestingly, listening to music posted by friends also loaded in this factor.

3.1 Discussion

This study set out to reveal uses and gratifications pertaining to media sharing groups on a social network. The results revealed four main uses and gratifications that people derived from the 'SMC' Facebook group: contribution, discovery, social interaction and entertainment. The latter two match two of the factors uncovered in Park et al.'s [18] study of Facebook groups. However, the current work's focus on groups as content communities results in the emergence of two novel factors: contribution and discovery. This suggests that media sharing groups represent a unique context, in terms of the motivations that drive use, in social networks. This reinforces Smock et al.'s argument for the need to study unbundled SNS features [19] and, indeed, suggests this point should be extended to not only consider specific technical features (e.g. groups) but also conceptual distinctions between the different foci towards which such functionalities can be used (e.g. media sharing groups may differ from groups for civic or political engagement). This paper argues that only by considering social media usage at such fine granularities will we be able to fully grasp the how and why of its use, fundamental parameters that impact of not only surface level user interface features, but the deep, underlying metaphors on which a site is based. Future work on this topic should attempt to translate these understandings into concrete, actionable recommendations for the design of novel social media services.

4. Study 2: Network Antecdents

This study [20] extends scholarship on motivational research for social network sites by exploring what aspects of a person's motives for using Facebook can be derived by examining their usage patterns and network structure. The ultimate goal of this work is to expand the methodological scope of U&G theory to offer improved explanatory power. Specifically, this study highlights the unexplored potential of capturing and analyzing detailed usage information (representing an accurate, detailed depiction of outcomes) and personal network metrics (serving as new forms of antecedent) for U&G studies.

The study was completed by 208 participants. Each was directed to an online survey with demographic questions followed by 28 questions regarding the gratifications they derive from Facebook, corresponding to the items used by Joinson [9]. The Facebook API was also used to gather a range of data about each participant. This included a comprehensive list of usage statistics (e.g. activities mentioned, photos uploaded, posts made, check-ins recorded, events attended, friendlists created, photos tagged-in, groups joined, links posted, questions asked, status updates recorded and likes awarded) and statistics derived from their egocentric friendship networks (e.g. size (in nodes), average degree, diameter, density, modularity, number of connected components, the mean clustering coefficient and path length).

To analyze this data, an exploratory factor analysis was conducted on the 28 questionnaire items with orthogonal rotation (varimax). This procedure yielded seven factors. As expected these were very similar to those identified by Joinson [9] and were termed: Social Connection; Shared Identities; Photographs; Content; Social Investigation; Social Network Surfing and; Newsfeed. A series of multiple regressions were run with the seven motives (i.e. factor scores) of Facebook use as outcome variables. The Facebook usage metrics and network metrics were used as predictor variables with age, reported time spent on site, gender (male = 1), occupation (re-coded as a dichotomous variable, student = 1), and nationality (re-coded as a dichotomous variable, USA = 1) as controls.

The analysis revealed a range of interesting relationships. There were no significant usage or network predictors for the Social Connection factor, but the remaining six factors all recorded predictor variables. Shared Identities, representing a motivation to associate with like-minded individuals, was positively correlated with the number of events attended and links posted, as well as the network factors of connected components and average clustering coefficient. A candidate explanation for these relationships is that they represent individuals who seek to use social media to connect with diverse groups and communities with similar interests to their own. Unsurprisingly, the Photographs factor, was strongly correlated with the number of photographs uploaded. On the other hand, the Content motive, which included items relating to interactive media and games, was negatively correlated with both use of status updates and photos – two of Facebook's major features. This suggests there is a group of users who go to the site predominantly for interactive content rather than more traditional media.

The Social Investigation motive was positively correlated with time on site indicating this activity, essentially exploring the profiles of others, can be time-consuming (or possibly even mildly addictive). Conversely, the number of status updates posted was negatively correlated both with this motive and with Social Network Surfing, indicating there may be a community of Facebook users who predominantly use the site to view rather than post content. Finally, the Newsfeed motive was positively correlated with posted status updates, but negatively correlated with number of likes and the connected components network metric. Explaining these links is challenging, but candidate explanations are that users who frequently like content may be more receptive to posted media items such as videos (rather than status text) and that those with highly diverse networks (e.g. a large number of connected components) may find their newsfeeds are overloaded with content and therefore of relatively little value.

4.1 Discussion

This study has shown that an investigation of the uses and gratifications of a social network site can provide

powerful descriptive and explanatory insights into the mechanisms that drive users' behaviors. Seven distinct uses and gratifications for Facebook users were indentified and the extent they can be predicted through a range of data that can be collected automatically via the Facebook API was investigated. In addition, an expansion of the current methodological scope of the U&G framework was suggested. This combines a survey instrument with the wealth of data that can be collected in an automatic way from a social network site, thus enabling the inclusion of a more comprehensive and reliable set of usage data, as well as a number of metrics derived from the personal networks of users. The theoretical implications of this are that new network antecedents are useful additions to the U&G frame of analysis, complementing the social and psychological antecedents that are typically employed.

5. Discussions and Conclusion

Social networks are a pervasive part of the modern Internet experience: a substantial proportion of users log on daily, if not hourly. However, we still know relatively little about what makes them so appealing and how (and for what) they are used. This paper has presented an overview of two studies that apply the lens of Uses and Gratification theory to Facebook to better illuminate some of these behaviors. These studies extend prior scholarship by exploring motives and usage in more fine-grained detail (and in the novel context of a media sharing group) and by taking advantage of the data that can be automatically, reliably and robustly captured from online social networks sites. These studies pose as many questions as they resolve but do provide pointers as to future directions for research exploring online social behavior – they show the benefits of tightly focused, fine-grained investigations and of combining survey responses with the rich data inherently recorded by online services. Future work should further develop and refine these ideas. Furthermore, a pressing current issue is to explore how the findings unearthed in studies such as those described in this paper can be meaningfully translated into novel design ideas for implementation and integration into the next generation of online social networks.

References

[1] Ancu, M. and Cozma, R. MySpace Politics: Uses and Gratifications of Befriending Candidates. Journal of Broadcasting & Electronic Media 53, 4 (2009).

[2] Burke, M., Kraut, R., and Marlow, C. Social capital on Facebook: Differentiating uses and users. In Proc. CHI 2011, 571–580.

[3] Dunne, Á., Lawlor, M.-A., and Rowley, J. Young people's use of online social networking sites – a uses and gratifications perspective. Journal of Research in Interactive Marketing 4, 1 (2010), 46-58.

[4] Ellison N. B., Lampe C., and Steinfield C. FEATURE: Social network sites and society: current trends and future possibilities. Interactions 16, 1, 6-9.

[5] Hanson, G. and Haridakis, P. YouTube users watching and sharing the news: A uses and gratifications approach. Journal of Electronic Publishing 11, 3 (2008).

[6] http://blogs.forrester.com/gina_sverdlov/12-01-04-global_social_technographics_update_2011_us_and_eu_mature_emerging_markets_show_lots_of_activity,

[7] http://newsroom.fb.com/content/default.aspx?NewsAreaId=22 (Retrieved on 27/08/2012).

[8] Jacob S., and Wash, R. 2012. Bootstrapping wikis: developing critical mass in a fledgling community by seeding content. In Proc. CSCW '12.

[9] Joinson A. Looking at, looking up or keeping up with people?: motives and use of facebook. In Proc. CHI 2008, ACM Press (2008), 1027-1036.

[10] Kaplan, A. M. and Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of Social Media. Business Horizons, 53 (1), 59-68.

[11] Karnik, M., Oakley, I., Venkatanathan, J., Spiliotopoulos, T. and Nisi, V. (2013) "Uses & Gratifications of a Facebook Media Sharing Group". In proceedings of ACM CSCW 2013, San Antonio, Texas.

[12] Katz, E., Gurevitch, M., and Haas, H. On the use of the mass media for important things. American Sociological Review 38, (1973), 164-181.

[13] Kaye, B.K. Going to the Blogs: Toward the Development of a Uses and Gratifications Measurement Scale for Blogs. Atlantic Journal of Communication 18, 4 (2010), 194-210.

[14] Lampe, C., Wash, R., Velasquez, A., and Ozkaya, E. Motivations to participate in online communities. In Proc. CHI 2010, ACM (2010), 1927–1936.

[15] Lewis, K., Kaufman, J., Gonzalez, M., Wimmer, A., and Christakis, N. Tastes, ties, and time: A new social network dataset using Facebook.com. Social Networks 30, 4 (2008), 330-342.

[16] Papacharissi, Z. and Mendelson, A. Toward a New(er) Sociability: Uses, Gratifications and Social Capital on Facebook. In S. Papathanassopoulos, ed., Media Perspectives for the 21st Century. Routledge, 2011.

[17] Papacharissi, Z. Uses and Gratifications. In M. Salwen and D. Stacks, eds., An Integrated Approach to Communication Theory and Research. Lawrence Erlbaum, 2008, 137-152.

[18] Park, N., Kee, K. F., and Valenzuela, S. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. Cyberpsychology and Behavior 12, 729-733.

[19] Smock, A.D., Ellison, N.B., Lampe, C., and Wohn, D.Y. Facebook as a toolkit: A uses and gratification approach to unbundling feature use. Computers in Human Behavior 27, 6 (2011), 2322–2329.

[20] Spiliotopoulos, T. and Oakley, I. "Understanding motivations for Facebook use: Usage metrics, network structure, and privacy". in ACM CHI 2013, Paris, France.

[21] Stafford, T.F., Stafford, M.R., & Schkade, L.L. Determining uses and gratifications for the internet. Decision Sciences, 35, (2004), 259–288.