The Effect of Social Factors on User-Generated Content Productivity: Evidence from Flickr.com

Emergent Research Forum Papers

Shih-Hui Hsiao
University of Kentucky
Shihhui.hsiao@uky.edu

Yichuan Wang
Auburn University
yzw0037@auburn.edu

Abstract

User-generated content (UGC) is a valuable information resource on social media. However, we currently know little about why people are constantly producing digital content. In an effort to gather more contents, many UGC service providers are trying to help users improve their social experience. Through the lens of social network theories, our study illustrates that social influence and social interaction between users will motivate users to contribute contents on UGC platforms. We hence design an empirical study to discover the social factors influencing users’ productivity. By collecting data from Flickr.com, we expect to support that individuals’ perception of “social comparison” and “social identity” will positively influence users’ behavior of content generation. We also assume that social interaction, in terms of tie strength, will increase users’ productivity of content.

Keywords (Required)

User-generated content, social comparison, social identity, social media.

Introduction

User-generated (UGC) has received wide attention in last decade. Knowledge embedded UGC has been emphasized as a valuable Internet asset (Susarla et al. 2012; Wang et al. 2007). UGC refers to “the media content created or produced by the general public rather than by paid professionals and primarily distributed on the Internet” (Daugherty, Eastin, & Bright, 2008, p. 16). Researchers suggest that some UGC produces remarkable value better than professional agencies do (Hill and Ready-Campbell 2011; Zeng and Wei 2013). Currently, the main stream of UGC research is focusing on the outcomes perspective. Researchers develop theoretical and empirical research to study the influence of UGC. At the same time, social media such as Flickr.com, has created the opportunity for monetizing online content by publishing interesting and marketable photos (Zeng and Wei 2013).

However, few papers have discussed UGC from the producer's perspective. For example, how blogger affect his or her followers’ opinion. Few studies clarify how to keep these producers on the platform and encourage them to continue generating content. Some studies discuss the motivators of users’ contributing behavior (Daugherty et al. 2008; Yang and Lai 2010). Nevertheless, social factors have yet to be identified clearly for understanding producers’ behavior. Focusing attention on social features, we study human behavior on UGC sites from the production perspective. Our research argues that social factors are the critical elements impacting users’ productivity. We believe that, users are more willing to constantly produce content when receiving social influence through the interaction processes. Users form their online social networks on UGC platforms by interacting with each other routinely. This social interaction will fulfill individuals’ social needs (Chu and Kim 2011; Du Plessis 2010; Wirtz et al. 2010).

Social theories have been adopted to discuss different setting in IS research, especially in Internet study (Afrasiabi Rad et al. 2011; Boyd and Ellison 2010; Brown et al. 2007; Ganley and Lampe 2009; Lu 2010). Social media analytics researchers emphasize that studying social media phenomenon needs to adopt
integrative, multidisciplinary approaches to provide a comprehensive view (Holsapple et al. 2014). Hence, our study reviews literature in different areas to identify factors that can explain users’ producing behavior on UGC platforms. Specifically, we argue that “social comparison,” “social identity,” and “social tie strength” could be useful to study this phenomenon. We believe that this social comparison process will influence users’ productivity, and users with strong feelings of social identity will be more willing to produce content. Further, the social ties among users texture their online social networks on the UGC platforms in ways that may enhance users’ social relationships. The strength of tie has been identified as an indicative factor to discuss users’ behavior of UGC (Susarla et al. 2012). Based on our logic, we ask the following research questions:

1. Do users’ perceptions of social comparison and social identity influence their content productivity?
2. Does the strength of social ties between users impact on their content productivity?

In this paper, we start with the current development of UGC. Next, we describe the theoretical background of our research and then form research hypotheses. Then we briefly describe the measurement used in our researches. Finally, the last section discusses the implications of our study.

User-generated Content

User-generated content (UGC) is a focal point of social media development. Based on the nature of social media, individuals have become active participants rather than passive receiver (Hermida and Thurman 2008). For example, platforms such as YouTube allow individuals to spontaneously establish their own sites for engaging people in a virtual setting. These content-oriented sites allow users to accumulate numerous audiences, and hence cause considerable impact (Akehurst 2009; Baeza-Yates 2009; Berthon et al. 2012; Van Dijck and Nieborg 2009; Van Dijck 2009). Individuals can pose product reviews and ratings that may influence consumers’ decisions (Ghose and Ipeirotis 2011; Pan and Zhang 2011), people co-editing Wikipedia may transfer knowledge (Van Dijck 2009; Kaplan and Haenlein 2010; Shao 2009; Yang and Lai 2010), crowdsourcing may provide the opportunity for a company to make use of an innovative idea from the masses (Doan et al. 2011), and the question-answer communities may help people solve their problems (Chen and Kao 2010; Fichman 2011). Users produce, design, publish or edit their own content such as photos, articles, voices, and also post comments for each other. The service providers need to design competitive applications to attract users. To date, we still know little about the social factors affecting the production of UGC. Hence, we propose that people are socially influencing each other through the interaction and engagement on social media. Our study argues that social inference will cause impact on users’ behavior of producing contents.

Theoretical Background and Hypotheses

Social Comparison

Social comparison theory has been applied to study human behavior on social media (Chen et al. 2010; Shriver et al. 2013; Trusov et al. 2010). Based on Festinger’s (1954) theory, social comparison explains that people have a tendency to evaluate their own opinions and abilities by comparing themselves to other people they perceive as similar. When receiving social information such as status, reputation, or popularity, people relate this information to themselves and adjust their behavior (Mussweiler 2001; Winter et al. 2010). On one hand, people may want to improve their own status by the belief that they can achieve a better social position. On the other hand, people may compare themselves to dissimilar others to protect their subjective well-being (Suls et al. 2002; Vassileva 2012). Among online social networks, people attempt to construct virtual social realities in which they are popular (J. E. Suls & Wheeler, 2000, p34).

In this study, we assume that individuals will produce the perception of social comparison through the experience of UGC platforms. We believe that through social comparison processes, individuals will likely to compare themselves to superior others. Viewing others’ behavior will cause individuals to modify their own higher goals for improving themselves (Blanton et al. 1999; Helgeson and Mickelson 1995; Huguet et al. 2001; Michinov and Primois 2005; Seta 1982; Vrugt and Koenis 2002; Wood 1989). Michinov & Primois (2005) develop an experiment to study the social comparison process in a synchronous electronic
brainstorming setting. They assert that feedback of contribution will improve users’ productivity and creativity. Based on this logic, our research includes social comparison theory as one critical factor to explain users’ behavior of content generation. We argue that a user perceiving strong feelings of social comparison will increase his or her productivity as measured by generating contents. Thus, we hypothesize that:

**H1:** Social comparison is positively related to the production of user-generated content

### Social Identity

We also reviewed research related to online social media to determine whether social identity is useful to study user behavior on social media UGC platforms. Researchers have supported the assertion that “social identity” can be adopted to study online social networks (Cheung and Lee 2010; Kuss and Griffiths 2011; Kwon and Wen 2010). Social identity theory indicates that “identification” is a critical element of the psychological basis of people’s engagement among their social networks (Blader and Tyler 2009; Tajfel and Turner 1979; Tajfel et al. 1971; Tyler and Blader 2000). Social identity refers to “individuals’ definition of the self in terms of group-defining attributes” (Forman, Ghose, & Wiesenfeld, 2008, p. 293). Worchel, Rothgerber, Day, Hart, & Butemeyer (1998) argue that social identity will improve individuals’ productivity through the process by which they categorize themselves and others as belonging to the same social group. They perceive that the group behavior reflects individual behavior, and they prefer to remain part of the group. Hence, they would likely to take the group behavior into consideration when making decisions. In simple terms, individuals perceive their position in a certain social group they belong to (Hogg and Terry 2000; Kwon and Wen 2010; Tajfel et al. 1971).

Previous research has supported the finding that online users prefer to feel connected to others and receive feedback from their social group (Baumeister and Leary 1995; Brewer 1991; Donath 1999; Forman et al. 2008; Hornsey and Jetten 2004; Jones and Pittman 1982; Ma and Agarwal 2007; McKenna and Bargh 1999; Swann Jr. 1983; Turkle 1996; Tyler et al. 1996). In the Internet setting, social identity can be clarified as “users increasingly seeking for a sense of ‘belonging’ to specific web interest groups and wanting to manage their image in these online environments” (Wirtz, Schilke, & Ulrich, 2010, p. 276). Through social interaction, users produce strong feelings of social identity, and the feeling of “identification” influences their content generation. We thus apply social identity to study users’ productivity on UGC platforms. We propose that users perceiving a high amount of social identity would be likely to improve their productivity thereby enhancing their feelings of belonging, their pride of participating, or their perception of respect (Blader and Tyler 2009). We then hypothesize that:

**H2:** Social identity is positively related to the production of user-generated content

### Social Tie Strength

Moreover, the concept of social ties has been broadly discussed in social media research. Social tie strength has been recognized as an important factor motivating users to participate in online social networks. Granovetter’s (1973) operationalization of social tie strength measures individuals’ relationship by closeness and interaction frequency and ranges from weak to strong. In our study, we propose that UGC is flourishing on online social networks and that many strong ties and weak ties are involved in (Pfeil et al. 2009). Strong ties demonstrate the significant influential power among individuals or small group, but weak ties may also be valuable because of the asynchronous and connective characteristics of UGC platforms that extend personal networks to the external environment and expand their potential impact (Chu and Kim 2011).

Currently, few papers study the impact of social ties on user behavior in UGC platforms. For example, Zeng and Wei (2013) argue that social tie will influence individuals’ content generating behaviors. Their work proposes that people with strong ties will upload photos with similar cultural characteristics. Susarla et al. (2012) investigate social ties among users on YouTube and find that describe that social interaction can be the main determinant when evaluating the magnitude of impact. Goes et al. (2014) identify determine the popularity of users, by the number of rating they have, will influence their product reviews. Shriver, Nair, & Hofstetter (2013) discuss find that Blog producers will post more articles if they receive more subscribers. Our study aims focuses on not only the quantity of unilateral social ties and but also the
quality of bilateral ties (strong or weak). Meanwhile, we evaluate users’ perceptions of social comparison and social identity for studying the impact on productivity. We expect to reveals the bilateral social interaction rather than considering only the number of tie. Hence, we believe our research, based on current understanding, can provide further development in UGC research. We then hypothesize that:

**H3:** Social tie strength is positively related to the production of user-generated content

Based on the previous discussion, we have designed our study to investigate UGC productivity. Because this is a relative new area, our research will be developed as an exploratory study. To answer our research questions and test our hypotheses, we are going to select Flickr.com as our research site. We argue that investigating our research setting in a real social media will provide an objective view for empirical understanding. Further discussion will be provided to explain the context of our targeted sites. We will also clarify the benefits of choosing Flickr.com as our sample and the reasons why it is suitable for pursuing our research goals.

**Measurement**

First, we review literature to identify commonly accepted scales for measuring individuals’ perceptions. Therefore, social comparison and social identity will be measured by the scales adopted from previous studies. Because the exploratory nature of this paper, we will not discuss the specific variables of each constructs. Second, to evaluate the social ties between users, we adopt Gilbert & Karahalios's (2009) work. Based on the social tie theory of Granovetter (1973, 1983), they develop a mechanism to measure social ties on social media by the variables including predictive intensity, intimacy, duration, reciprocal services, structural, and emotional support. Their final result identifies the top 15 predictive variables for measuring tie strength on social media. We will apply these 15 variables to estimate users’ social tie strength on Flickr.com.

To measure the productivity of UGC, we adopt approach from previous literature. Each photo posting will be count as adding 1 to the production variable. Based on our research setting, we will build a sample of participants focusing on the users who are taking part in selected virtual communities on Flickr.com. Because of the functions indicating the “top contributors,” users in the communities may have a stronger perception of social comparison. At the same time, for controlling the difference between communities, we will select four different kinds of communities to avoid the bias of specific interest group of people, allowing us to control for the differences between communities. For each user, we will collect each user’s perception of social comparison and identity by sending them an online survey. To access the social information and interaction with other members among the communities, we will request participants to be our contacts. Then, we will create automated agents to collect a panel of data consisting of content information, comments and feedbacks, and user information from Flickr.com over a period of two months. Our data will be based on both secondary data and the results of a questionnaire and will be used to discuss whether users’ perception of social influence and their social ties will positively affect their actual content generation behavior on Flickr.com. The main contribution of this research will be identified in the next section.

**Conclusion**

While social computing models have received considerable attention from academia and practitioners, our empirical analysis of social media is valuable to advance the current understanding of interpersonal relationships. At the same time, our study focusing on the productivity of UGC could supplement current knowledge about social media applications, and add to the research on UGC. This paper is expected to reveal the nature of human behavior on social media, regarding those producers contributing on UGC. We plan to conduct an empirical study to investigate individuals’ perception of social influence and their actual social ties on social media. We believe this paper can contribute on social theory research and advance current knowledge about social ties in a virtual social network setting. We assume that our results can be benefits for future research to construct comprehensive framework to guide social media practitioners. Information system and marketing researchers could apply our understanding to conduct studies on social media. For example, IS researchers may discuss facilitating UGC to improve product design by adopting customers’ ideas. On the other hand, our study analyzes user behavior of producing content on social media may demonstrate some suggestions for practitioners. Under the dynamic nature
of online social network, social media providers have received high pressure for advancing their functions and services. Our research may indicate some notions for current online services.

REFERENCES


