Understanding Young People’s We-Intention to Contribute in Danmaku Websites: Motivational, Social, and Subculture Influence

Yuxiang (Chris) Zhao¹, Xixian Peng², Jian Tang³, Shijie Song⁴
¹ Nanjing University of Science and Technology
² National University of Singapore
³ Central University of Finance and Economics
⁴ Ford Motor Research & Engineering (Nanjing) Co., Ltd.

Abstract
Various social media have promoted the emergence and development of diverse subcultures among the young generation. ACG (Animation, Comic, and Game) is such an adolescent subculture which is fascinating to a group of young people, named Otaku. Danmaku video sharing website is an important social media for them to communicate, and reflects an obvious hedonic characteristic of usage. In this study, we propose a research model in the context of Danmaku websites. First, we include an important social driver, sense of virtual community (SOVC), to predict we-intention of participants. Second, we employ social presence theory and uses and gratifications theory to understand the formation of SOVC. In addition, we argue that when considering young people’s usage of innovative IT product, the degree of their identity within the subcultural involved in the product should also be included. Finally, a longitudinal field study is designed to test the research model and hypotheses.

Keywords: Danmaku video sharing website; We-Intention; Sense of virtual community; Social presence; Subcultural identity


Copyright: Copyright is held by the authors.

Acknowledgements: The work has been jointly supported by National Social Science Foundation in China (No.15ZDBB26) and National Science Foundation in China (No.71403119).

Contact: yxzhaovip.163.com

1 Introduction
In the past decade, with the sweeping progress of Web 2.0 technologies and smart ICT devices, young people are immensely exposed to the digital environment (Vodanovich et al., 2010; Wei et al., 2011). The youth market is critical for an Internet company because of the high penetration rate and its profound influence. For example, according to the report from PewResearchCenter (2015), young adults (ages 18 to 29) are the most likely to use social media – fully 90% do. More importantly, such promising usage rate of social media has resulted in gradual alteration of young people’s lifestyle that various subcultures emerge among the younger generation (Niu et al., 2012). For instance, the otaku is such a group of young people who are obsessed with a subculture named ACG, an abbreviation from “Anime, Comic and Games” (Azuma, 2009). As a form of fan culture (Chen, 2007), this subculture is first realized in Japan. Through various media it spread to other Asian countries (e.g. China) (Chen, 2007) and even the United States (Brienza, 2009).

In China, the dominating social media for disseminating ACG subculture are Danmaku video sharing websites, such as Afun, Bilibili, Tucao, Dibili and etc. Compared with those regular user-generated video sharing websites (e.g., YouTube), users can synchronously add comments when watching video on Danmaku, and these comments will immediately slide over videos in the form of commentary subtitle (Shen,
Chan, & Hung, 2014). Such kind of comments presentation form makes viewers feel a sense of real time communication with other people who are watching the same video. In addition, individuals can develop their own home page to include their favorite music, television shows, and movies, and they can also choose to join various interest groups to communicate with others directly. Moreover, they can also modify the original video clips in a creative way and produce some interesting and inspiring derivative work. Hence, dannaku website provides members with an easy and convenient medium for communication and collaboration. We believe that the uniqueness of dannaku websites is not in their ability to facilitate the diffusion of information but rather their ability to create a common space for the group members with similar interests and preferences to share and disseminate their ideas, feeling, and emotions, which in the long run will shape subculture communities and generate the common sense of We-intention.

Prior research has indicated the importance of We-intention in contribution behavior in various contexts (e.g., Bagozzi & Dholakia, 2002; Dholakia et al., 2004; Shen et al., 2011; Tsai & Bagozzi, 2014). We-intention is defined as “a commitment of an individual to engage in joint action and involves an implicit or explicit agreement between the participants to engage in that joint action” (Tuomela, 1995). Different from traditional I-intention which focusing on individual act, we-intention highlights collective agreement and commitment involved in the performance of a group act (Bagozzi & Lee, 2002; Shen et al., 2007; Cheung et al., 2011). We-intention reflect the collective notion and social nature of group action and behavior (Shen et al. 2007), and some researchers argue that we-intention has been an overlooked concept in the previous IS research and worth further examination (Shen et al., 2010; Tsai & Bagozzi, 2014). In this study, due to the communication and collaboration nature of dannaku video sharing websites, we consent that we-intention is a more appropriate approach to explore online social activities and group behaviors (Cheung et al., 2011). Thus, understanding how young people form we-intention to contribute in dannaku websites is crucial for the academic community and service providers. In order to make virtual communities sustainable and maintain a sufficient number of participants, some researchers argue that managers and designers should generate a certain degree of members’ sense of virtual community (SOVC) to facilitate their feelings of belonging towards a unique group (Blanchard, 2007; Sutanto et al., 2011). SOVC has been linked to many positive outcomes (Ren et al., 2007), including agreement and commitment (Gupta & Kim, 2007) emphasized by we-intention.

In this study, we attempt to examine this topic by extending previous research in several ways. First, we include an important social driver, sense of virtual community (SOVC), to predict we-intention. Second we employ social presence theory and uses and gratifications theory to understand the formation of SOVC. In addition, we argue that when considering young people’s usage of innovative IT product, the degree of their identity within the subcultural involved in the product (Hall & du Gay, 1996) should also be included. Therefore, our research aims to address the following research questions:

- What is the role of SOVC in influencing young people’s we-intention to contribute in dannaku websites?
- What motivational needs are critical to drive young people’s SOVC?
- How does social presence of dannaku websites influence young people’s SOVC?

2 Theoretical Background

2.1 Uses and Gratifications Theory

Uses and gratifications theory (U&G) is a media use paradigm from mass communication research that focuses on use and selection of media (Katz et al., 1974). U&G theory assumes that the selection and usage of media is a goal-directed, purposive, and motivated action (Cheung et al., 2011). Over the years, the U&G theory has been applied in various contexts in order to understand its underlying psychological and
behavioral needs met by the adoption and usage of mass media and IT artifacts (e.g., Chen, Yang, & Tang, 2013; Flanagin & Metzger, 2000; Peters et al., 2007; Stafford et al., 2004). U&G theory has multiple underlying dimensions and constructs. Specifically, U&G paradigm is generally classified into five needs or values, namely purposive needs, self-discovery needs, maintaining interpersonal interconnectivity needs, social enhancement needs, and entertainment needs (Cheung et al., 2011; Dholakia et al., 2004; Flanagin & Metzger, 2000; Shen et al., 2007; Sutanto et al., 2011). Purposive needs refer to the value derived from accomplishing some informational and instrumental purpose. Self-discovery needs represent the desire to understand oneself through social interactions. Maintaining interpersonal interconnectivity needs refer to the social benefits derived from establishing and maintaining relationships with others. Social enhancement needs are defined as the desire to gain acceptance and recognition from others, which may increase one’s self-esteem and social status within the community. Entertainment needs refer to the desire for fun and relaxation through playing and interacting with others. The overarching principle of these five needs is that user will choose media according to their desires and expectations that may bring them gratifying experiences.

2.2 Social Presence Theory
According to Short et al. (1976), social presence is the degree to which a person is aware of another person in mediated environment. Following this definition, some researchers regard social presence as a feature or attributes of the communication media (Burke & Chidambaram, 1999; Carlson & Davis, 1998). They believe that various types of media may differ in their degree of social presence and will further affect the nature of the interaction. Such conceptualization of social presence posits a media richness view (Daft & Lengel, 1986) and explains the social presence as a subjective quality of the communication media (Fortin & Dholakia, 2005; Gefen & Straub, 2004). Other researchers have defined the concept of social presence from a relational view (Shin, 2002; Swan & Shih, 2005; Wang & Tai, 2011), which refers to “an individual’s ability to demonstrate her/his state of being in a virtual environment and so signal her/his availability for interpersonal transactions” (Kehrwald, 2008, p.94). Following this conceptualization, social presence reflects the properties of communication interaction and psychological aspects rather than the direct attributes of the media (Biocca et al., 2003). Benbasat and Kumar (2002) re-conceptualize the social presence as an adapted construct para-social presence (PSP), which aims to reflect the extent to which a medium facilitates a sense of understanding, connection, involvement and interaction among participating social entities. In their definition, social actor within a medium and medium as a social actor should be equally considered when reviewing the social presence theory, which means that the media attributes and the individual attributes within the communication media are equally important and cannot be separated. We agree with this conceptualization because it provides a holistic view for both sides of the emphases (media attributes and human relations) and may capture the underlying structure of relationship that emerges between participating social entities (not just limited to people or media, but suggests an ensemble view to combine the various actors and artifacts in social presence).

2.3 Subcultural Perspective
According to generational subculture theory, the subculture of a given generation will be shaped by the events that occur during its most impressionable years (Strauss & Howe, 1991). The youth generations are born in a technology-savvy environment with rich choices of digital artifacts. In this case, the new environment and structure are more likely to incubate various subcultures via diverse media. According to cultural identity theory, cultural identity is similar to social identity, but not identical. Social identity refers to cognitive self-awareness of group membership, affective commitment to the group, and group-based or collective self-esteem (Tsai & Bagozzi, 2014). In additional to self-feeling belonging to a certain social group,
cultural identity emphasizes on self-perception to identify with certain language, history, and ways of understanding the world (Ashmore et al., 2004; Felix-Ortiz et al., 1994; Norton, 1997). Identifying with certain culture doesn’t necessarily mean belonging to a subcultural group. In our research context, ACG is a type of subculture, and otaku is the group of people who is obsessed with ACG. However, it is important to note that not all the young people who are fond of ACG consider themselves as otaku. This feature of self-perception also makes subcultural identity different from subjective norm which reflects the influence of felt expectation of other people, which are largely based on a need for approval (Eagly & Chaiken, 1993).

In addition, the development of subculture is based upon what people experienced during their impressive years (Martinsons & Ma, 2009; Strauss & Howe, 1991). For example, young generation usually automatically accept computers as a part of their lives because they are born in the digital era. In this respect, it is more interesting to focus on automatic self-perception to identify with the core content (e.g. fondness, language, activities and so on) in the subculture, rather than the compliance or internalization process of the group. Considering subculture identity, we must understand the internal meaning of the subculture and inherent characteristics of people who like the pertinent subculture.

3 Research Model and Hypotheses

Our research context is danmaku video sharing website, an important type of user-generated contents medium for Chinese young people who are fond of ACG subculture to communicate and disseminate their thoughts, attitudes, and emotions. Figure 1 depicts the research model of this study, which hypothesizes that SOVC is a determinant of we-intention, which in turn influences user’s contribution behavior in danmaku websites.

3.1 The Role of We-Intention

Some researchers indicate that in virtual communities, most users are lurkers and do not post or share their opinions (Nonnecke & Preece, 2000). Danmaku websites provide an opportunity to co-present or co-create group actions. However, it is interesting to notice that in danmaku websites, young people are more active in commenting, posting, and contributing to the virtual community (Baidu Report, 2015). We argue that the activeness of young people’s behavior may partially result from the transition of user intention. For instance, when one posts a thought on his or her Facebook, the action is perceived as an individual act. However, when one watches the danmaku video sometimes they cannot help but comment or respond to other members’ thoughts and ideas. As Bagozzi and Lee (2002) indicated, people with we-intention view a group activity holistically. In other words, it is the group that performs or experiences an action, rather than individuals independently engaged in separate actions (Shen et al., 2007). Compared with individual intentions (I-intention), group-oriented intentions (we-intention) are strongly formulated with reference to the collective entity, and one may perceive herself or himself as part of the group and acting together with others (Tsai & Bagozzi, 2014). Moreover, contribution behaviors in danmaku websites often require a certain number of participants to act in concert to make the group action meaningful. Prior research has also found the positive relationship between we-intention and contribution behavior (Dholakia et al., 2004; Tsai & Bagozzi, 2014). Therefore, we hypothesize that:

**H1:** We-intention has a positive influence on young people’s contribution behavior of Danmaku video sharing websites.
3.2 The Role of SOVC

SOVC relates to the cognitive, affective, and behavioral aspects of members in virtual communities (Blanchard, 2007, 2008; Chen et al., 2013; Koh & Kim, 2003). From cognitive perspective, membership indicates a feeling of belonging when people are involved in the virtual communities. Chai and Kim (2012) found that a strong sense of belonging leads to a high level of participation and contribution behavior in virtual communities. From affective perspective, emotional attachment and obligation to a virtual community reflects a deep connection among the members (Blanchard & Markus, 2004). In danmaku settings, we argue that shared emotional connections may reinforce members’ relationships, and will further arouse their empathy and emotional resonance. From behavioral perspective, some researchers have examined the positive associations between SOVC and contribution behavior in virtual communities (Chen et al., 2013; Lev-On, 2009). In this study, we expect SOVC to be predictive of members’ we-intentions to contribute to danmaku websites because such behavior will incur cost and effort in varying degrees. We posit that when young people cultivate a high level of SOVC, they will think themselves and other members of the ACG community as a collective and commit time and effort to contribute. Such commitment and obligation in virtual communities have been confirmed by prior studies (Mathwick et al., 2008; Wasko & Faraj, 2005).

According to the processes of social influences proposed by Kelman (1974), we believe that identification and internalization processes are two very important dimensions in SOVC and will positively influence users’ we-intentions. The identification process refers to one’s conception of self in terms of the relationships with other group members and the specific group (Bagotzi & Dholakia, 2006; Shen et al., 2007). In our case, when young people accept the influence to develop and maintain an amicable relationship to another member or group they are more likely to form we-intention. The internalization process refers to congruence of one’s values or goals with that of other group members (Shen et al., 2007). In danmaku websites, young people with the similar interests and preferences are more easily to come together and foster a strong we-intention. This leads to the following hypothesis:

**H2:** Greater levels of SOVC are associated with greater levels of we-intentions to contribute in Danmaku video sharing websites.
3.3 The Role of Individual Motives
Based on the uses and gratifications theory, we expect the degree of gratification sought during the usage of danmaku websites to be related to the SOVC of members. In our study, we focused on three key dimensions of individual motives relevant to our study, namely information needs, entertainment needs, and social enhancement needs.

Regarding the information needs, danmaku websites are well-known for their rich UGC resources, such as original videos, derivative videos, gossip news, and tease comments. Young people are fond of that information congruent with their interests, and they may actively search or find relevant information through the interaction with other members in danmaku websites. Such social search behavior will allow them to strengthen the identities of other peers and foster a sense of belonging, which may ultimately lead to attachment and obligation to the community (Matsuba, 2006; Sutanto et al., 2011). Regarding the entertainment needs, prior U&G studies have demonstrated that media usage will bring people with fun, enjoyment, and relaxation (Choi et al., 2009; Peters et al., 2007). As people have entertaining needs are exposed to affective stimuli, they tend to perceive positive feelings about the media (Chen et al., 2013). While obtaining pleasure by browsing videos, reading others’ amusing comments, and interacting with other members (e.g., chatting, following other’s virtual space, and joining the special interests group, etc.) in danmaku websites, young people can recognize and identify other members in the danmaku community, and will further develop attachment and affective interaction towards the group. Regarding the social enhancement needs, prior studies have indicated that an individual will be motivated to use media if she or he believes it will help serve her or his objective to socialize with other people (Ellison et al., 2007; Haythornthwaite, 2011; Urista, 2009). In our case, when young people contribute to the danmaku websites, they may gain social recognition and social identification from other members, and the desire for recognition will enhance their engagement and involvement (Wasko & Faraj, 2000). Through accumulating the “Like” and “Follow” from the peers, contributors will gradually build satisfying relationships with other members and have positive perceptions towards the danmaku community. Therefore, we hypothesize:

*H3:* (a) Information needs, (b) entertainment needs, and (c) social enhancement needs have positive influence on young people’s SOVC in danmaku video sharing websites.

3.4 The Role of Social Presence
Prior research indicate that social presence could be conceptualized as a group-level construct and observed during several distinct occasions of interaction between various social actors (Kumar & Benbasat, 2002; Sivunen, 2014; Tu, 2002). In our study, we argue that social presence in danmaku websites may be reflected in two facets, media attribute and individual attribute. Social presence, as media attribute, concurs with the original definition of social presence and highlights the feature and function conveyed by media (Short et al., 1976). For instance, danmaku websites allow the members to post their comments immediately and synchronously and also receive others’ responses timely and interactively. Social presence, as individual attribute, indicates the discourse between individuals, which is more influential than the pure media attributes and should have gained more attention (Gunawardena & Zittle, 1997). For instance, young people may perceive great sense of closeness and mutual awareness when they interact with other peers in danmaku websites. Three constructs are identified to elaborate on the conceptualization of social presence, namely intimacy, immediacy, and co-presence, in prior studies (Biocca et al., 2003; Kumar & Benbasat, 2002; Shen & Khalifa, 2007). The first two constructs refer to the media attributes of danmaku websites and the last construct relates to the individual attributes.

Intimacy serves the function of approximating communication distance in creating social presence (Reams, 2013) while immediacy refers to the measure of the psychological distance that a communicator puts between herself or himself and the communication object (Gunawardena & Zittle, 1997). Supporting
the intimacy of danmaku websites may lead to a high level of self-disclosure, perception of partner disclosure and responsiveness (Reis & Shaver, 1988), which will enhance the technological affordance in transmitting cues. Meanwhile, immediacy as a quality of communication medium, may help the young people in danmaku communities foster a sense of warm, sensitive, and friendly (Reams, 2013). We argue that the affordances provided by the danmaku websites should pay closer attention to these two media attributes since individuals tend to select medium that they perceive to have the highest intimacy and immediacy (Cheung et al., 2011; Flanagan & Metzger, 2000), and fulfillment of intimacy and immediacy will largely increase the membership and influence in danmaku communities, which are the key dimensions of SOVC. In addition, co-presence refers to the degree to which the member believes she/he is not alone, and the perception about other’s identity, intention, and attention (Biocca et al., 2003). The stronger the sense of co-presence, the more approximate is the virtual community to a real community (Shen & Khalifa, 2007), which implies a strong degree of sense of belonging. When young people are watching the danmaku videos, the flying comments and instant chatting can convey them with the cue that they are not alone. Such co-presence may reinforce their commitment and attachment towards the danmaku websites, which in turn will enhance the SOVC. Accordingly, we hypothesize that:

\[ H4: \text{A higher level of (a) intimacy, (b) immediacy, and (c) co-presence leads to a higher level of SOVC.} \]

3.5 The Moderating Role of ACG Subcultural Identity

In this study, ACG is an umbrella term with strong interest for the adolescent otaku (Niu et al., 2012). Danmaku video sharing sites are one of the main channels for adolescents who are fond of ACG to communicate and contribute. According to cultural identity theory, we term subcultural identity of ACG as the extent which users are familiar with, understand, accept, and adapt to ACG culture. We expect users with different identity levels of ACG could have discrepant sensitivity to individual motives of Danmaku video sharing sites, which will influence the SOVC. We posit that differences in ACG subcultural identity can moderate the effects of motivational factors on member’s SOVC. Specifically, for those who are familiar with the ACG subculture, they do have a clearer mind on what kind of information they can obtain from the danmaku websites, and they also have idea on how to search for that information they needed. Furthermore, those who with high level of ACG subcultural identity are more easily to have fun and enjoyment during their interaction and contribution in the danmaku websites, and may show an explicit need for recognition and identification. The homogenous interests and values derived from the ACG subcultural identity of members in danmaku websites may foster a relatively high level of empathetic understanding and emotional attachment (Koh & Kim, 2004), which are the key building blocks of SOVC. The motivational factors correspond to the young people’s identification of what they like, and their individual motives can persist if the danmaku websites satisfy their subculture orientation. Hence, we hypothesize that:

\[ H5: \text{The influence of (a) information needs, (b) entertainment needs, and (c) social enhancement needs on SOVC will be stronger for members who have higher level of ACG subcultural identity in danmaku video sharing websites.} \]

4 Research Methodology

We will conduct a longitudinal field study to empirically test our research model and related hypotheses. We plan to collect both self-reported and objective behavioral data. We will cooperate with one popular Danmaku website in China to conduct this study. At the start (Time 1), participants will be required to fill the questionnaire items which are used to measure the SOVC and its antecedents. All measures for these constructs are adapted from existing instruments in previous literature. The instruments in Blanchard’s
(2007) research will be used to measure SOVC. The measurement items for individual motives are adapted from Dholakia et al. (2004) and Sutanto et al. (2011). The related scales for social presence will be adapted from Reams (2013) and Biocca et al. (2003). ACG subcultural identity will be revised from Niu et al. (2012). This survey questionnaire will also capture young people’s demographic information and their experiences about using Internet and watching videos online.

Furthermore, via the Danmaku platform, a banner with a hyperlink to our Web will be posted on the home page. At the same time, the platform will help us to send a system message to users, which explains the purpose of study. Users will be informed that their information and data will be kept confidential and only used in academic research. The first web survey will stay on the Danmaku website for five days. During the first wave of survey, participants’ mobile number will be collected for the convenience of the survey at time 2. We will also explain to participants that the bonus for participating will be sent to their mobile phones directly. A week later, via the Danmaku, we will send another email to those who have filled the first survey to ask to complete another survey measure their We-intention (adapted from Tsai & Bagozzi, 2014) and other control variables. We will also remind them with mobile text messages. To encourage our respondents complete the questionnaires at both T1 and T2, we will offer a mobile top-up card valued at RMB 50 (approximately U.S. $8) to those who submit information on all waves. The objective data, including frequency and duration of watching video, the number of sharing, and the number of Danmaku comments, will be obtained from the Danmaku platform as the measurement of contribution behavior. Based on above data, PLS method will be used to estimate our research model and test the hypotheses.

5 Potential Contributions

Our research intends to contribute to the progress of subculture research in information systems in several ways. Theoretically, by integrating the use and gratification theory as well as social presence theory, we propose a theoretical model to explain the role of motivational, social, and subculture factors in influencing young people’s sense of virtual community and we-intention to contribute. Particularly, we argue that user’s subculture identity can moderate the influences of those predictors. Methodologically, we will conduct longitudinal field study to integrate subjective and objective data to present a better picture of user’s contribution behavior. Practically, we hope this systematic investigation of danmaku information systems can provide better explanation of young people’s contributing behavior, encouraging and engaging more participation in subculture environments.

6 References


