

Summer 6-27-2016

UNDERSTANDING YOUNG PEOPLE'S USE OF DANMAKU WEBSITES: THE EFFECT OF PERCEIVED COOLNESS AND SUBCULTURAL IDENTITY

Xixian Peng

National University of Singapore, pengx@comp.nus.edu.sg

Yuxiang Chris Zhao

Nanjing University of Science and Technology, yxzhao@vip.163.com

Hock Hai Teo

National University of Singapore, teohh@comp.nus.edu.sg

Follow this and additional works at: <http://aisel.aisnet.org/pacis2016>

Recommended Citation

Peng, Xixian; Zhao, Yuxiang Chris; and Teo, Hock Hai, "UNDERSTANDING YOUNG PEOPLE'S USE OF DANMAKU WEBSITES: THE EFFECT OF PERCEIVED COOLNESS AND SUBCULTURAL IDENTITY" (2016). *PACIS 2016 Proceedings*. Paper 252.

<http://aisel.aisnet.org/pacis2016/252>

This material is brought to you by the Pacific Asia Conference on Information Systems (PACIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in PACIS 2016 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

UNDERSTANDING YOUNG PEOPLE'S USE OF DANMAKU WEBSITES: THE EFFECT OF PERCEIVED COOLNESS AND SUBCULTURAL IDENTITY

Xixian Peng, Department of Information Systems, National University of Singapore, Singapore, pengx@comp.nus.edu.sg

Yuxiang Chris Zhao, School of Economics and Management, Nanjing University of Science and Technology, Nanjing, Jiangsu, China, yxzhao@vip.163.com

Hock Hai Teo, Department of Information Systems, National University of Singapore, Singapore, teohh@comp.nus.edu.sg

Abstract

“Wow! This is cool!” response is frequently used by young people to express their approval and fond of objects, including digital products and services. Moreover, with the evolution of Internet and information technology, various media have promoted the emergence and development of diverse subcultures among the young generation who have their own lifestyles. 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. As young people are the main adopters of innovative products, when studying young people's use of technologies, it is essentially important to involve the effect of coolness and subculture. In this paper, we posit that perceived coolness has a positive effect on young people's use behaviour of Danmaku video sharing website, and ACG cultural identity moderates the effect. We also try to identify the potential quality related factors which can predict perceived coolness. A quasi-experiment is designed to test the research model and hypotheses.

Keywords: Danmaku video sharing websites, Perceived coolness, ACG, Subcultural identity, Use behaviour, Young people.

1 INTRODUCTION

Young people today are “digital natives” (Vodanovich, Sundaram, & Myers, 2010; Wei, Teo, Chan, & Tan, 2011), capable of using technology to do just about anything. The youth market is pretty critical for an Internet company because of the promising usage rate. 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. Gardner and Davis (2014) name today’s young people “The App Generation” because the current generation of youth is deeply, or even totally, involved with digital media. Some studies also have mentioned “Global Teens” to emphasize the explosive growth of young consumers in global markets (Arnett, 2002; Kamaruddin & Mokhlis, 2003). Therefore, the success of an Internet company depends largely on the popularity of its products in the group of young people.

Usage is a significant criterion to evaluate whether an information technology product or service is successful (DeLone & McLean, 1992). Previous IS studies have typically considered usability (e.g. system or information qualities) and usefulness factors as the primary predictors of technology usage (DeLone & McLean, 2003; Wixom & Todd, 2005). And there are also some studies on sociability of IT, especially in the adoption and use of social information systems (Tsai & Bagozzi, 2014). However, since the young people usually are the first and primary users of new technological products, the generational characteristics of those young people should be focused when considering the usage of new IT products. One of these factors is the coolness aspect of technology because young people are always likely to show the “Wow! This is cool!” response when given innovative IT products, such as new smartphones and mobile applications (K. J. Kim, Shin, & Park, 2015). The perceived coolness of a product does have implications for its success in marketplace because it is believed to play an important role in how users view and use technology (Nancarrow, Nancarrow, & Page, 2002).

Moreover, with the increasing penetration rate of Internet, popularization of diverse media has given rise to various emerging subcultures among the younger generation (Niu, Chiang, & Tsai, 2012). For instance, the otaku is such a group of adolescents 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) and even the United States (C. Brienza, 2009; C. E. Brienza, 2009). In China, the main media for disseminating ACG are Danmaku video sharing websites, such as Acfun, Bilibili, Tucao, etc. Compared with regular user-generated content websites (e.g. Youtube), users can add comments when watching ACG video on Danmaku, and these comments will immediately slide over videos in the form of commentary subtitle (Shen, Chan, & Hung, 2014). In the age of Internet, technology not only facilitates the diffusion of information, but also becomes a tool for various cultural groups to share and disseminate their ideas, which in the long run will form culture communities and generate the common sense of cultural identity. Consequently, we argue that when considering young people’s usage of innovative IT, their identity with the subculture involved in the technology should also be included.

Therefore, the purpose of this paper is to examine the role of perceived coolness and subcultural identity in affecting social media usage behavior of young people. Taking Chinese Danmaku video sharing websites as context, the specific research questions of this paper are:

- Do system and information characteristics of the websites influence perceived coolness?
- Do perceived coolness influence young people’s use of Danmaku websites, and whether their subculture (ACG) identity levels moderate the effect?

This paper may have two contributions. First, by incorporating two constructs, perceived coolness and subcultural identity, we can better understand young people’s adoption and usage of innovative IT products. As young people tend to embrace change and seek discovery, connectedness, personalization and multiculturalism, previous predictors (e.g. perceived usefulness, enjoyment) cannot completely explain why young people choose certain innovative IT product and/or abandon others. Hence, it is important to add generational characteristics of young people when studying technologies mainly

targeting on youth market. In addition, this paper also contributes to literature related to information and system quality. Consistent with the perspective that IT quality indirectly influence use intention through behavioral beliefs, such as usefulness and ease of use (Wixom & Todd, 2005), this paper introduces perceived coolness as a mediator between IT quality and use behavior, which helps to understand how IT quality contribute to use behaviour in hedonic context.

2 LITERATURE REVIEW

2.1 Conceptualizing Coolness

Nowadays, “Cool!” is a very common expression of approval to describe almost all entities, including objects, people or phenomena. The concept of coolness has been studied by marketing researchers for some time (Nancarrow et al., 2002; O'Donnell & Wardlow, 2000). In marketplace, coolness has been found to be a provocative catalyst for selling products. For example, a cool image helps solidify Harley Davidson's status as an iconic brand (Holt, 2004), and influence customers' brand preference (Warren & Campbell, 2014). Coolness can excite consumers, especially young people, and add symbolic currency to products (Frank, 1997; Leland, 2009). Coolness also shapes consumer trends (Gladwell, 1997). Staying cool, cute and exclusive must be added into companies' sale strategies (Cronin, 2014). In recent years, the term of cool is frequently used to label innovative digital products. Coolness vaults Apple as world's most valuable brand (Itv, 2015). Therefore, coolness has become a critical psychological criterion that pursued by designers, developers and marketers. Information system researchers also pay more and more attention on the concept of coolness. Holtzblatt (2011) organized and led a SIG (special interest group) meeting dedicated to “understanding cool” in CHI 2010. Coolness also has been found to positively influence on users' adoption of various innovative technology products, including smartphone and wearable technologies (K. J. Kim & Shin, 2015; K. J. Kim et al., 2015).

Although there is no consistent agreement of coolness's definition (Dar-Nimrod et al., 2012), most literatures agree on four defining properties (Warren & Campbell, 2014). First, coolness is socially constructed. Cool is a perception or an attribution bestowed by an audience rather than an inherent feature of an object or person (Belk, Tian, & Paavola, 2010; Leland, 2009). Like popularity or status, coolness is similar to a socially constructed trait. Coolness is also highly related to culture. Counter-main-culture is regarded as coolness for young people (Frank, 1997). In most time, coolness is built only to the extent that others labelled with the same culture consider the object or person cool (Warren & Campbell, 2014). Second, coolness is subjective and dynamic. With diverse subcultures, coolness changes both over time and across consumers (O'Donnell & Wardlow, 2000). As the tastes of the public, like fashion, are changing, coolness varies correspondingly. Perceptions of coolness therefore are continuous and contextual. Third, coolness is perceived to be a positive quality. Both qualitative and quantitative studies confirm coolness as having a positive valence that introduce hedonic motivations (Belk et al., 2010; Dar-Nimrod et al., 2012). Last, although coolness is a positive trait, coolness requires more than the mere perception that something is positive or desirable (Leland, 2009). Consumers perceive some quality, such as uniqueness, which set these cool things apart from other things that they merely like or evaluate positively. As a result of these properties, coolness has multi-dimensions (Sundar, Tamul, & Wu, 2014). Sundar et al. (2014) capture the meaning of the concept of coolness from mainly three sub-dimensions, namely counter-culture, attractiveness, and originality, and develop measures for assessing coolness particular for technological product and interface. The concrete meaning of these three dimensions will be discussed in the next section.

2.2 The Subcultural Perspective

Culture can influence people's use of technologies (Cinnirella & Green, 2007; Muralidharan, La Ferle, & Sung, 2015), and at the same time high accessibility to Internet technology and popularization of focus media are reshaping culture, or even creating culture (Furedi, 2014; Niu et al., 2012). Culture is

seen as an significant factor in the acceptance and effective use of information technologies (Walsh, Kefi, & Baskerville, 2010). Culture refers to how members of a collective interpret or make sense of events and situations in their environment (Schein, 2010). In recent years, more and more IS researchers have incorporated cultural effect at different levels, including organizational, national and group (Leidner & Kayworth, 2006), to investigate IT usage.

From an organizational perspective, the five dimensions of cultural values proposed by Hofstede (2001), including power distance, uncertainty avoidance, masculinity, time orientation, and individualism, can influence both IT-enabled organizational change and their choices of various information systems (Maris G Martinsons, Davison, & Martinsons, 2009). Previous IS literature has also shown that national cultural values can influence individuals' usage of the Internet-enabled mobile devices (Vance, Elie-Dit-Cosaque, & Straub, 2008), media choices (Z. Lee & Lee, 2009), online social networks usage (Vasalou, Joinson, & Courvoisier, 2010), and so on. Compared with national and organizational culture, group culture, also named subculture, is less studied in the context of information technologies. According to generational subculture theory, the subculture of a given generation can be shaped by the events that occur during its most impressionable years (Strauss & Howe, 1991). The youth generations are born in the digital era with the hallmark of Web 2.0 technologies. In this case, the new environment and structure are more likely to incubate various subcultures among the young generation via diverse media, such as online communities, social network websites and user-generated content websites. For instance, ACG, a typical youth subculture shared by Otaku (Niu et al., 2012), is mainly developed in or shown out by Danmaku video sharing websites. Hence, when considering a particular group of users' technologies use in social information systems for hedonic purpose, it is very important to scrutinize the effect of subculture.

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 addition to self-feeling belonging to certain social group, cultural identity emphasizes on self-perception to identify with certain language, history, and ways of understanding the world (Ashmore, Deaux, & McLaughlin-Volpe, 2004; Felix-Ortiz, Newcomb, & Myers, 1994; Norton, 1997). In real world, 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 is largely based on a need for approval (Eagly & Chaiken, 1993). At the same time, the development of subculture is based upon what people experienced during their most impressionable years (Maris G. Martinsons & Ma, 2009). For example, young generation automatically accepts computers as a part of their lives because they are born in a digital era. In this case, it is more interesting to focus on the automatic self-perception to identify with the core content (e.g. fondness, language, activities and so on) in the subculture, not 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. For example, there are mainly five characteristics for people who are involved with ACG subculture: deep ACG research, animation obsession, indoor activity, self-superiority and accentuation of interests (Niu et al., 2012). Therefore, we focus on the concept of individuals' subcultural identity, referring to users' self-perception of the extent of how they understand, accept and adapt to certain subculture.

3 THEORETICAL MODEL AND HYPOTHESES

Our research context is a type of user-generated content website, Danmaku video sharing website, an important medium for Chinese young people who are fond of ACG subculture to communicate and disseminate their thoughts, attitudes, and emotions. We first try to find the system and information qualities predicting users' perceived coolness, because previous studies have shown that the product

quality is an important predictor for individuals' positive perception to that product (Sundar et al., 2014; Warren & Campbell, 2014). In addition, because the term cool has increasingly become the favored language of youth culture (Nancarrow et al., 2002), we introduce the concept of subculture identity on ACG, to examine how perceived coolness influence use behavior of danmuku websites with the moderating effect of ACG identity. Our research model is shown in figure 1.

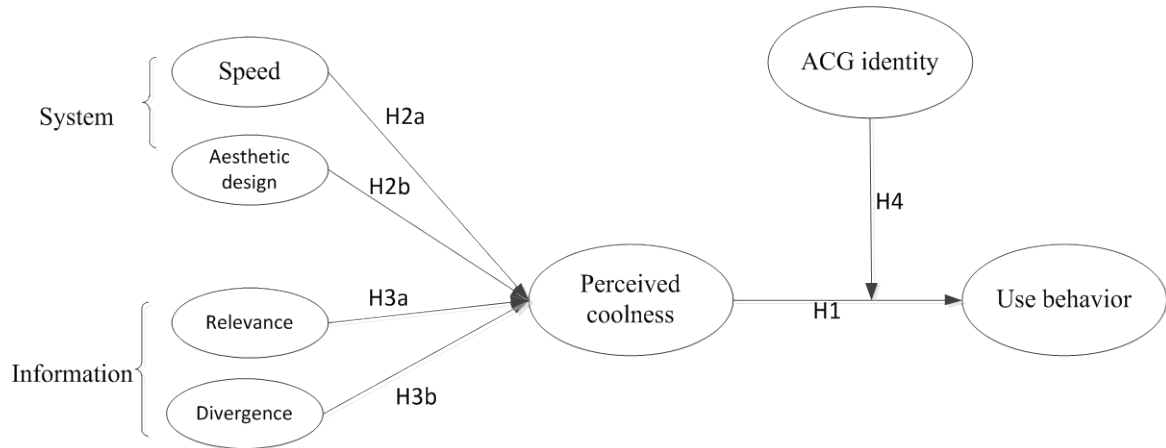


Figure 1. Research model and hypotheses

3.1 Perceived Coolness and Use Behaviour

The marketing literature indicates that various aspects can make a product cool. Some products that help consumers to express their personality and stand apart from the crowd, as well as those described as innovative and unique, are more likely to be described as cool by consumers (Levy, 2006; Smith & Wylie, 2004). Other products or devices are described as cool because they have elements of authenticity and innocence. Moreover, other efforts have described cool as something unexpected, a genuine natural expression, lucky, intelligent, sincere and distinctly counter-cultural (Allison, 2009; Kerner & Pressman, 2007; Levy, 2006). Hence, perceived coolness is a multi-dimensional concept with several sub-concepts. Through comprehensive literature review, Sundar et al. (2014) explicate the concept of coolness in the context of technologies, covering a number of psychological essence and characteristics such as trendiness uniqueness, rebelliousness, genuineness and utility. They propose a parsimonious three-solution for conceptualizing coolness. Specifically, attractiveness, originality and capability of subculture constitute the core perception of coolness in digital devices and interfaces.

- **Attractiveness:** encompasses both the aesthetic appeal and socially accepted notion of style. This dimension captures the evaluation of whether a technology looks great, accomplishes its purpose creatively, and helps people do a previously mundane thing in a new and exciting manner. For example, the Danmaku style of comment (e.g., flying, flashing into, or any other animation effect) is the most attractive format for young people.
- **Originality:** the uniqueness of a digital device or interface which makes people to perceive it substantively or cosmetically different from similar technologies. Some variations of originality, uniqueness, distinctiveness, novelty and freshness, appear to be associated quite strongly with the notion of coolness. Danmaku is also a kind of secondary creation with originality. Moreover, some video resources, e.g. Kichiku or Guichu, are distinct in Danmaku websites.
- **Capability of subculture:** whether a technology is capable of building a subculture around it. This dimension means the degree to which users perceive that whether a technology is absent in mainstream culture, helps people who use it stand apart from the crowd, or provides utility to a subculture. It's similar to a sense of camp that a group of people who pursue a common interest. Danmaku websites provide a camp for young people fond of ACG.

The perceived coolness of a technology is believed to play a role in how users view and use technology (Sundar et al., 2014). First, perceived coolness can be regarded as a cognitive heuristic (or

mental shortcut) used to make snap decisions (Sundar, 2008). Coolness heuristic, refers to “a conscious acknowledgement of ‘hipness’ of the digital interface suggested by its newer modalities” (Sundar, 2008), can introduce users’ positive evaluation, and then has important impact on their use choices. In addition, perceived coolness also has strong hedonic effect. Consumers may care more about acquiring cool brands for products consumed publicly (e.g., a car) rather than privately (e.g., a dishwasher) or for hedonic products (e.g., music) rather than utilitarian products (toothpaste) (Warren & Campbell, 2014). One of the most important purposes of social media, including video sharing websites, is to provide users hedonic feelings, such as enjoyment, fun, and empathy. For young people, feeling cool is apparently an indispensable criterion to evaluate the value of the technology. According to the unified theory of acceptance and use of technology (UTAUT), hedonic motivation can influence use intention. According to above discussion, we firstly propose that perceived coolness can have a positive impact on young people’s use behaviour of Danmaku websites.

H1: Perceived coolness has a positive influence on young people’s use behaviour of Danmaku video sharing websites.

3.2 Predictors of Perceived Coolness

Prior literature has suggested that by substantively or cosmetically altering the interface, coolness perceptions of a device can be enhanced (Sundar et al., 2014). Hence, the quality of technology can definitely influence users’ perception of coolness. Previous studies have developed several scales to measure the quality of e-commerce websites. Yoo and Donthu (2001) measure the quality of online shopping website from four dimensions: ease of use, aesthetic design, processing speed and security. Similarly, S. Kim and Stoel (2004) develop a scale of website quality from five dimensions: usefulness, aesthetic design, ease of use, response time and trust. Our research context is Danmaku video sharing website, which is different from e-commerce website. Hence, previous scales of e-commerce cannot be applied to our context completely. According to D&M IS success model, there are mainly two dimensions for website quality: system and information. For system quality, we select the two common system quality sub-dimensions, aesthetic design and speed (response time), from these established scales. In the term of information quality, we try to identify differentiated features of Danmaku websites. First, because Danmaku website is a video sharing website, whether the video content can capture the youth’s interests and attention is very important. Hence, we include content relevance as one sub-dimension of information quality. Second, the flying comment on video is the main differentiated feature of Danmaku websites over other video sharing websites. According to our pre-interviews with Danmaku websites users, we find that only when the Danmaku comments are unexpected and divergent, users would think they are interesting. Hence, we include the divergence of Danmaku comments as another sub-dimension of information quality.

Speed of Danmaku video sharing sites means the promptness of processing users’ requests. Speed is an essential dimension of website (Yoo & Donthu, 2001). For video sharing websites, speed includes mainly two aspects: the waiting time between users’ click to watch certain video and the start of playing the video, and the processing time when Danmaku comments crowd together. Compared with other video sharing websites (e.g. YouTube), one of the speed advantage of Danmaku websites is that there are no in-stream advertisements. For YouTube, there are always pre-roll ads before the target video and even mid-roll ads which interrupt viewers. In addition, there is also a disadvantage of Danmaku websites that the system may be overloaded when danmaku comments crowd at a short time of period. In general, speed and fluency are very important criteria for young people to evaluate IT products. For example, young people always like smartphone with advanced processors to give them better use experience. Hence, it is reasonable to hypothesize that danmaku website with higher speed can induce more feeling of cool. Aesthetic design means the appearance of the website (Parasuraman, Zeithaml, & Malhotra, 2005). As attractiveness is an important dimension of coolness, aesthetic design should be a predictor for perceived coolness. Popular IT products, such as the iPod, are perceived as cool products by young people because of their attractive surfaces to some extent. Levy (2006) analyses Apple products in details, and he finds the attractiveness of Apple products is partly

root in aesthetics. In human-computer interaction, Tractinsky (1997) has pointed out that the aesthetic nature of an object plays a major role in how it is perceived. Hence, aesthetic design of Danmaku video sharing websites plays a significant role on whether people evaluate them as cool or not.

H2: (a) Speed and (b) aesthetic design have positive influence on young people's perceived coolness of Danmaku video sharing websites.

Information relevance refers to the extent of fit between the video content and users' needs (Y. W. Lee, Strong, Kahn, & Wang, 2002). ACG is the main content in Danmaku video sharing websites. ACG have diverse sub-categories. For example, games can be classified into computer games, video games, mobile games, arcade games, and online games. Animation can also be classified into Taisen, BL, Campus, etc. As there are various types of ACG, Danmaku websites should provide or highlight video resources that highly related to young people's current trends and fashions. It is undeniable that if young people can find what they want from the websites, they could deem these websites are cool. The last dimension of information quality is divergence, which is relatively less discussed in the IS literature. The main outstanding feature of Danmaku video sharing websites is that they allow viewers' comments become part of the target video. In this case, when the later viewers watch the same video, they can also see predecessors' comments, which are called Danmaku (Shen et al., 2014). This kind of flying comment presentation tends to be the most attractive to young people, because these comments can always bring excited viewing experience with unexpected humour. Hence, divergence of Danmaku means the degree of interesting, creative, unexpected that Danmaku comments introduce when viewers watch videos. This is main feature that differentiate Danmaku websites from general videos sharing websites. With divergence of Danmaku, viewers can get extra enjoyment and humour in addition to the initial effect that the target video intend to reflect. In Japan, Danmaku is regarded as a kind of Tsukkomi, *Tucao* in Chinese. Tsukkomi is an interactive mechanism widely used in comedy and animation, which is referred as important source of coolness for young people (Tosa & Nakatsu, 2002). Hence, we hypothesize that:

H3: (a) Relevance and (b) Danmaku divergence have positive influence on young people's perceived coolness of Danmaku video sharing websites.

3.3 The Moderated Effect of ACG Subcultural Identity

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. In this paper, 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 perceived coolness of Danmaku video sharing sites, which influence their use behaviours of these websites. Young people's approval of ACG subculture mainly has four characteristics (Azuma, 2009):

- Deep ACG research. Their profound interest in, and knowledge and appreciation of ACG.
- Animation obsession. Their addiction to the virtual anime and manga surroundings.
- Self-superiority. Most of them have relatively strong self-recognition and superiority.
- Accentuation of interests. They have the deeper, enthusiastic, and digitized research of the otaku into subjects of interest.

The moderating effect of culture orientation in various contexts has been examined in previous IS studies. For example, Tsai and Bagozzi (2014) find that differences between collectivistic and individualistic cultural orientations moderate the effects of social, emotional, and informational influences on behavioural desire. We posit that identity to ACG subculture can moderate the effect of perceived coolness on use behaviour. Coolness is socially constructed that is built only to the extent that others labelled with the same culture consider the object or person cool (Belk et al., 2010; Leland, 2009). Only people who are familiar with ACG subculture do know the actual meaning of coolness in their subcultural group. Their perception of coolness corresponds to their identity of what they like. And their perception coolness can persist if the product is rooted in their cultural value. People who

are not fond of ACG may also think Danmaku websites cool. However, as perception of coolness is dynamic (O'Donnell & Wardlow, 2000), their feelings may be temporary without cultural basis. Hence young people with less ACG subcultural identity may not use Danmaku websites in long-term or high frequency as young people who are really fond of ACG, even they also feel Danmaku websites are cool. We hypothesize that:

H4: ACG subculture identity will positively moderate the relationship between perceived coolness and use behaviour.

4 RESEARCH METHODOLOGY

We will use a quasi-experiment to test the research model and hypotheses. Young students in Chinese mainland universities, who have used Danmaku videos sharing websites before, will be invited to participate in the study. We plan to recruit 250-350 participants and they will be given course credits or monetary rewards for participations. They also will be promised that their personal information will only be used for academic research. Firstly, every participant will be required to answer a survey questionnaire with items to measure their perceptions of Danmaku websites. All measures for these constructs are adapted from existing instruments in previous literature. The measurement items for speed and aesthetic design are adapted from Yoo and Donthu (2001). The instruments in Wixom & Todd's (2005) research will be used to measure information relevance and divergence. ACG identity and perceived coolness are multi-dimensional formative construct. The related scales will be revised from Niu et al. (2012) and Sundar et al. (2014) respectively. This survey questionnaire will also capture users' demographic information and their experiences about using Internet and watching videos online. After answering the questionnaire, participant will be also asked to install a crawler application in their most frequently used personal computers. The crawler software will record participants' use behaviours of Danmaku videos sharing websites, including frequency and duration, in the following one month, which are used to measure the use behaviour. Based on the above data, PLS method will be used to estimate our research model and test the hypotheses.

5 CONCLUSION

The young people usually are the first and primary users of new technological products, it is therefore important to focus on generational characteristics of those young people when considering the design of new IT products. In order to understand to the effect of two distinguished characteristics of young people (perceived coolness and subcultural identity) this paper proposes a research model in the context of Danmaku videos sharing websites where otaku people congregate. By theoretically conceptualizing perceived coolness, we posit that perceived coolness can influence young people's use behaviour, and this effect can be moderated by ACG subcultural identity. We also indicate that quality of Danmaku websites (e.g. speed, divergence) can be potential predictors for perceived coolness. We propose a quasi-experiment to collect data to empirically test the model and related hypotheses.

This paper has two possible contributions. First, it contributes to the IT adoption literature by incorporating perceived coolness, as the feeling of cool has become more and more important for young people. Also perceived coolness could be a potential mediator to explain the weak effect of technology quality on use behaviour (Wixom & Todd, 2005). Also, this paper contributes to the innovation adoption literature by incorporating the concepts of perceived coolness and subcultural identity, which are less examined in IS domain. In addition, our study can have important practical implications if the hypotheses are supported. We emphasize the importance of coolness in innovation adoption, and this paper gives guidelines to IT practitioners about how involve coolness into their products or devices from quality perspective. Also, our future empirical analysis may also confirm that IT designers also should consider how to reflect subcultural features into their IT design to target users with different cultural interests. With the cultural basis, users will have higher frequent use of their products reflecting their subculture, and the products can have long life cycles.

References

- Allison, A. (2009). The cool brand, affective activism and Japanese youth. *Theory, Culture & Society*, 26(2-3), 89-111.
- Arnett, J. J. (2002). The psychology of globalization. *American psychologist*, 57(10), 774-783.
- Ashmore, R. D., Deaux, K., & McLaughlin-Volpe, T. (2004). An organizing framework for collective identity: articulation and significance of multidimensionality. *Psychological bulletin*, 130(1), 80-114.
- Azuma, H. (2009). *Otaku: Japan's database animals* (illustrated ed.). Minneapolis: U of Minnesota Press.
- Belk, R. W., Tian, K., & Paavola, H. (2010). Consuming cool: Behind the unemotional mask. *Research in consumer behavior*, 12(1), 183-208.
- Brienza, C. (2009). Paratexts in Translation: Reinterpreting 'Manga' for the United States. *The international journal of the book*, 6(2), 13-20.
- Brienza, C. E. (2009). Books, Not Comics: Publishing Fields, Globalization, and Japanese Manga in the United States. *Publishing Research Quarterly*, 25(2), 101-117.
- Chen, J.-S. (2007). A study of fan culture: Adolescent experiences with animé/manga doujinshi and cosplay in Taiwan. *Visual Arts Research*, 33(1), 14-24.
- Cinnirella, M., & Green, B. (2007). Does 'cyber-conformity' vary cross-culturally? Exploring the effect of culture and communication medium on social conformity. *Computers in Human Behavior*, 23(4), 2011-2025.
- Cronin, B. (2014). Sales Strategy: Stay Cool, Cute and Exclusive. Retrieved 02-27, 2016, from <http://blogs.wsj.com/economics/2014/06/12/sales-strategy-stay-cool-cute-and-exclusive/>
- Dar-Nimrod, I., Hansen, I., Proulx, T., Lehman, D., Chapman, B., & Duberstein, P. (2012). Coolness: An empirical investigation. *Journal of Individual Differences*, 33(3), 175-185.
- DeLone, W. H., & McLean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. *Information Systems Research*, 3(1), 60-95.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: a ten-year update. *Journal of Management Information Systems*, 19(4), 9-30.
- Eagly, A. H., & Chaiken, S. (1993). *The Psychology of Attitudes*. San Diego: Harcourt Brace Jovanovich College Publishers.
- Felix-Ortiz, M., Newcomb, M. D., & Myers, H. (1994). A multidimensional measure of cultural identity for Latino and Latina adolescents. *Hispanic Journal of Behavioral Sciences*, 16(2), 99-115.
- Frank, T. (1997). *The Conquest of Cool: Business Culture, Counterculture, and the Rise of Hip Consumerism*. Chicago: University of Chicago Press.
- Furedi, F. (2014). How The Internet and Social Media Are Changing Culture. Retrieved 02-22, 2016, from <http://www.aspeninstitute.cz/en/article/4-2014-how-the-internet-and-social-media-are-changing-culture/>
- Gardner, H., & Davis, K. (2014). *The App Generation: How Today's Youth Navigate Identity, Intimacy, and Imagination in a Digital World*. New Haven: Yale University Press.
- Gladwell, M. (1997). The coolhunt: who decides what's cool? Certain kids in certain places—and only the coolhunters know who they are. *The New Yorker*, 17, 78-87.
- Hofstede, G. H. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks: SAGE Publications, Inc.
- Holt, D. B. (2004). *How brands become icons: The principles of cultural branding*. Boston: Harvard Business Press.
- Holtzblatt, K. (2011). CHI 2011: The Design of Cool. Retrieved 02-22, 2016, from <http://incontextdesign.com/blog/chi-2011-the-design-of-cool/>
- Itv. (2015). Apple named world's most valuable brand at £112 billion. Retrieved 02-22, 2016, from <http://www.itv.com/news/2015-10-05/apple-named-worlds-most-valuable-brand/>
- Kamaruddin, A. R., & Mokhlis, S. (2003). Consumer socialization, social structural factors and decision-making styles: a case study of adolescents in Malaysia. *International Journal of Consumer Studies*, 27(2), 145-156.

- Kerner, N., & Pressman, G. (2007). *Chasing Cool: Standing Out in Today's Cluttered Marketplace*. New York: Atria Books.
- Kim, K. J., & Shin, D.-H. (2015). An acceptance model for smart watches: implications for the adoption of future wearable technology. *Internet Research*, 25(4), 527-541.
- Kim, K. J., Shin, D.-H., & Park, E. (2015). Can Coolness Predict Technology Adoption? Effects of Perceived Coolness on User Acceptance of Smartphones with Curved Screens. *Cyberpsychology, Behavior, and Social Networking*, 18(9), 528-533.
- Kim, S., & Stoel, L. (2004). Dimensional hierarchy of retail website quality. *Information & Management*, 41(5), 619-633.
- Lee, Y. W., Strong, D. M., Kahn, B. K., & Wang, R. Y. (2002). AIMQ: a methodology for information quality assessment. *Information & Management*, 40(2), 133-146.
- Lee, Z., & Lee, Y. (2009). Emailing the boss: Cultural implications of media choice. *Professional Communication, IEEE Transactions on*, 52(1), 61-74.
- Leidner, D. E., & Kayworth, T. (2006). Review: a review of culture in information systems research: toward a theory of information technology culture conflict. *MIS quarterly*, 30(2), 357-399.
- Leland, J. (2009). *Hip: The History*. New York: HarperCollins.
- Levy, S. (2006). *The Perfect Thing: How the iPod Shuffles Commerce, Culture, and Coolness*. New York: Simon & Schuster.
- Martinsons, M. G., Davison, R. M., & Martinsons, V. (2009). How culture influences IT-enabled organizational change and information systems. *Communications of the ACM*, 52(4), 118-123.
- Martinsons, M. G., & Ma, D. (2009). Sub-Cultural Differences in Information Ethics across China: Focus On Chinese Management Generation Gaps*. *Journal of the Association for Information Systems*, 10(11), 816-833.
- Muralidharan, S., La Ferle, C., & Sung, Y. (2015). How Culture Influences the "Social" in Social Media: Socializing and Advertising on Smartphones in India and the United States. *Cyberpsychology Behavior and Social Networking*, 18(6), 356-360.
- Nancarrow, C., Nancarrow, P., & Page, J. (2002). An analysis of the concept of cool and its marketing implications. *Journal of Consumer Behaviour*, 1(4), 311-322.
- Niu, H. J., Chiang, Y. S., & Tsai, H. T. (2012). An exploratory study of the Otaku Adolescent Consumer. *Psychology & Marketing*, 29(10), 712-725.
- Norton, B. (1997). Language, identity, and the ownership of English. *TESOL quarterly*, 31(3), 409-429.
- O'Donnell, K. A., & Wardlow, D. L. (2000). A Theory on the Origins of Coolness. *Advances in Consumer Research*, 27(1), 13-18.
- Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). ES-QUAL a multiple-item scale for assessing electronic service quality. *Journal of service research*, 7(3), 213-233.
- PewResearchCenter. (2015). Social Media Usage: 2005-2015. Retrieved 02/26, 2016, from <http://www.pewinternet.org/2015/10/08/social-networking-usage-2005-2015/>
- Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2): John Wiley & Sons.
- Shen, Y., Chan, H., & Hung, I. (2014). Let the Comments Fly: The Effects of Flying Commentary Presentation on Consumer Judgment. Paper presented at the 2014 International Conference of Information Systems.
- Smith, J., & Wylie, J. (2004). China's Youth Define "Cool" College students name their favorite brands-and divulge how much they spend. *China Business Review*, 31(4), 30-35.
- Strauss, W., & Howe, N. (1991). *Generations: The history of America's future, 1584 to 2069*. New York: HarperCollins.
- Sundar, S. S. (2008). The MAIN model: A heuristic approach to understanding technology effects on credibility. In M. Metzger & A. Flanagin (Eds.), *Digital media, youth, and credibility* (pp. 73-100): MIT Press.
- Sundar, S. S., Tamul, D. J., & Wu, M. (2014). Capturing "cool": Measures for assessing coolness of technological products. *International Journal of Human-Computer Studies*, 72(2), 169-180.

- Tosa, N., & Nakatsu, R. (2002). Interactive Comedy: Laughter as the next intelligence system. Paper presented at the Micromechatronics and Human Science, 2002. MHS 2002. Proceedings of 2002 International Symposium on.
- Tractinsky, N. (1997). Aesthetics and apparent usability: empirically assessing cultural and methodological issues. Paper presented at the Proceedings of the ACM SIGCHI Conference on Human factors in computing systems.
- Tsai, H.-T., & Bagozzi, R. P. (2014). Contribution behavior in virtual communities: cognitive, emotional and social influences. *Mis Quarterly*, 38(1), 143-163.
- Vance, A., Elie-Dit-Cosaque, C., & Straub, D. W. (2008). Examining trust in information technology artifacts: the effects of system quality and culture. *Journal of Management Information Systems*, 24(4), 73-100.
- Vasalou, A., Joinson, A. N., & Courvoisier, D. (2010). Cultural differences, experience with social networks and the nature of “true commitment” in Facebook. *International journal of human-computer studies*, 68(10), 719-728.
- Vodanovich, S., Sundaram, D., & Myers, M. (2010). Digital Natives and Ubiquitous Information Systems. *Information Systems Research*, 21(4), 711-723.
- Walsh, I., Kefi, H., & Baskerville, R. (2010). Managing culture creep: Toward a strategic model of user IT culture. *The Journal of Strategic Information Systems*, 19(4), 257-280.
- Warren, C., & Campbell, M. C. (2014). What makes things cool? How autonomy influences perceived coolness. *Journal of Consumer Research*, 41(2), 543-563.
- Wei, K.-K., Teo, H.-H., Chan, H. C., & Tan, B. C. (2011). Conceptualizing and testing a social cognitive model of the digital divide. *Information Systems Research*, 22(1), 170-187.
- Wixom, B. H., & Todd, P. A. (2005). A theoretical integration of user satisfaction and technology acceptance. *Information Systems Research*, 16(1), 85-102.
- Yoo, B., & Donthu, N. (2001). Developing a scale to measure the perceived quality of an Internet shopping site (SITEQUAL). *Quarterly Journal of Electronic Commerce*, 2(1), 31-47.