Presentation Desire of Digital Identity in Virtual Community

Hee-Woong Kim and Eunice Que

National University of Singapore
{kimhw, EuniceQue}@comp.nus.edu.sg

Abstract. Recently digital items have been widely used by people in the online space including virtual communities and online games. Some Internet companies even in the context of virtual community (VC) generate revenue from the sales of digital items to their online members. The sales of digital items provide insights for Internet companies and virtual community providers who are suffering from the lack of a profitable business model. This study examines why people pay for digital items from the self-presentation perspective in the context of VC by introducing a new construct, digital identity, and developing a conceptual framework of presentation of digital identity. The findings of this study show that the presentation desire of digital identity leads to the intention of purchasing digital items. This study identifies the significance of online group norm and online group involvement on the presentation desire from the social digital identity perspective and the significance of personal innovativeness from the personal digital identity perspective. These findings help to advance theory and offer practical insights in the context of Internet business and VC.

1 Introduction

Recently, virtual communities (VCs) like MySpace (www.myspace.com) and Friendster (www.friendster.com) as well as online game providers have developed a virtual icon called Avatar—a graphical representation and articulation of a user in the virtual environment. In addition to Avatar, online game providers like WorldWarCraft (www.worldofwarcraft.com) and NeoPets (www.neopets.com) have started developing digital items (e.g., game character) and selling them for generating revenue. VCs have also started developing and selling digital items to their users. Digital items (e.g., avatar, clothes and hats for the avatar, digital wallpapers, background music, and weapons used in online games) are online products which can be employed by users for representation and articulation and as a multipurpose platform in the online space. Cyworld (us.cyworld.com) is a representative success case with its unique and profitable business model based on the sales of digital items in the context of VC.

Cyworld is a VC where members build relationships with other members and share their interests and information. Cyworld enables its members to form online clubs of similar interests (e.g., online recipe club, stock investment club, travel information club). Compared to other VCs, Cyworld has a unique feature called a mini-hompy, which is similar to a weblog. Upon registration in Cyworld, each member gets an

empty mini-hompy. Mini-hompy consists of each member's profile, journal, mini-room, photo album, and guestbook. Members communicate through the mini-hompies. Popular pastimes involve the user clicking through his circle of friends or his friend's circle of friends, reading their profiles, looking at their photo albums, listening to music from their jukebox, and leaving them messages. Members are under no obligation to decorate their mini-hompies but that would be similar to entertaining visitors in an empty living room.

Cyworld has developed several digital items (e.g., avatar, clothes, hats, shoes, furniture, pets, wallpapers, music, and works of art) which can be purchased by members with prices varying from US\$0.2 to US\$0.5 for each digital item. Members can buy these digital items and use them to decorate their mini-hompies. Most of the digital items have a certain life span varying from one week to one year. After expiry of the digital items, members need to purchase them again. According to company information, Cyworld had around 13 million members (8% of them are in 10s, 79% of them are in 20s, 8% in 30s, 5% in 40s and above; 60% of them are female) in 2004 and made an average of US\$200,000 in sales each day by selling digital items. Cyworld has further expanded its business from Korea (www.cyworld.com) to US (us.cyworld.com), Japan (jp.cyworld.com), China (www.cyworld.com.cn), Taiwan (tw.cyworld.com) and Europe in the near future.

While Cyworld clearly illustrates a new and profitable business model in the context of VC, the members' purchase behavior has not been explained. This study aims to examine the purchase behavior of people in VCs like Cyworld. Specifically, this paper seeks answers to two research questions: (1) what factors motivate the intention of purchasing digital items in the online space? and (2) how do the factors affect the purchase intention? The rest of the paper is organized as follows. The next section presents the conceptual background of this research. The research model and hypotheses follow. We then describe the research methodology applied. After interpreting the empirical results, we discuss the implications and conclude with a summary of this study.

2 Digital Identity and the Presentation

Identity is often characterized by one's personality traits, interpersonal characteristics such as the roles and relationships one takes on in various interactions, the skills one possesses, and one's personal values or moral beliefs (Calvert 2002). It would be difficult to explain how one person is different from others without using identity. There is an inherent unity to the self as one body corresponding to one particular identity in offline context (Donath 1998). Self-presentation of identity in the offline context is also affected by many factors beyond our control such as age, race, and gender.

However, the Internet has provided a new context for identity exploration because of its anonymity and flexibility. An identity established online is not necessarily tied to the identity of same person established offline. For example, one person can establish very active and cheerful identity in the online context while (s)he has a different identity characterized by shyness in the offline context. One person can also join a special online club and actively participate in that club's activities while (s)he does

not want to or can not join such a club in the offline context. It would also be easy to establish and change one's identity in the online context while it would be very difficult to establish and change one's identity in the offline context. In addition, it takes less time and effort for the self-presentation of identity in the online context while it takes a lot of time and effort for the self-presentation of identity in the offline context. This study proposes a new construct, digital identity, to represent any identity established online. Same as the self-concept consisting of personal identity and social identity in the offline context (Ashforth and Mael 1989), digital identity may consist of a personal digital identity and a social digital identity.

Digital identity then leads to the online presentation. Establishing digital identity, people want to make a desired impression to others online and project a wanted online image. Online image is the opinion or concept of the identity that is held by the public in the online space. There could be two main approaches in expressing one's digital identity in the online space: textual communication and symbolic communication. In textual communication, linguistic cues (e.g., language intensity and lexical diversity) and paralinguistic cues (e.g., typographical marks and emoticons) could be used to form the online image in cyberspace (Jacobson 1999). As a type of textual communication, there is also synchronous communication like chatting to reflect spontaneity and the more thoughtful style of asynchronous communication as in message boards (Suler 2002). In symbolic communication, presentation of digital identity is mediated by digital items (e.g., avatar). Digital items are like physical possessions and functions as tangible symbols of identity. Thus, by studying an individual's digital items portfolios, others gain access to the possessor's intangible image (Schau and Gilly 2003).

However, presentation of digital identity is constrained by the digital representations constructed by interactive systems. For example, people can use different features such as homepage, avatar, music, photo, message board for representing digital self only if the interactive system provides them. Especially, for the presentation of personal digital identity, an individual may need to use any of the mediums (e.g., blog and message board) which can show his or her accomplishments, characteristics, and unique things. Regarding the presentation of social digital identity, social digital identity can be exemplified by the online groups one belongs to as well as the digital signs and digital symbols that point to an affiliated identity like logos or a sports team color. People thus use digital items for presenting digital identity only if the interactive system provides.

3 Research Model and Hypotheses

Based on the conceptual background discussed above, we develop a research model (see Figure 1). From the personal perspective of self-concept, an individual's personality traits affect the establishment of identity (Baumeister 1998). This study selects personal innovativeness as a personality trait because it is a good indicator of how likely an individual is to try out new ideas and new things and all individuals possess it in varying intensities (Hirschman 1980). As a key personality trait helping to establish one's personal identity, personal innovativeness is defined as *the degree to which an individual is receptive to new ideas and makes innovative decisions independently of the communicated experience of others* (Midgely and Dowling

1978). Personal innovativeness thus boosts confidence to perform new and unknown tasks and seek out new and stimulating experiences (Venkatraman 1991), which leads an individual to desire to present his or her digital identity in an attempt to mirror personal innovativeness in the online space, especially in online groups like VCs. Hence, we hypothesize:

H1: Personal innovativeness has a positive effect on the presentation desire of digital identity in the context of online group.

Fig. 1. Research Model

Regarding the social perspective of self-concept, self-categorization is the process of taking the self as an object and categorizing, classifying and naming itself in particular ways in relation to social categories and classifications (Turner, Hogg, Oakes, Reicher, and Wetherell 1987). Social categorization then leads to the formation of one's social identity. Categorizing oneself as a group member shifts the self-concept to bring it in line with the characteristics of the focal group. It is a cognitive assimilation of the self to the group prototype which describes and prescribes perceptions, attitudes, feelings, and behaviors of the group members (Hogg and Terry 2000). With respect to self-categorization, this study identifies online group involvement as one factor responsible for initiating and managing self-categorization process and helping to establish one's social identity in the online space. Following the concept of group involvement (Havitz and Dimanche 1997), this study defines online group involvement as *a state of motivation, arousal or interest toward a focal online group*. The more attached an individual is to a group, the more he or she will value social interactions directed at the group audience, which increases the person's inclination to project a desired self-image and consistently perform coherent and complementary behaviors to maintain the desired impression (Rice, Grant, Schmidt, and Torobin 1990; Schlenker 1980). Online group involvement thus leads people to desire to self-present in accordance with the same online group members through social-categorization in the online space. Hence, we hypothesize:

H2: Online group involvement has a positive effect on presentation desire of digital identity in the context of online group.

Another assertion from the social perspective of self-concept says that people as group members tend to adhere to group norms (Barreto et al. 2000). Group norms specify what group members are expected to do when faced with a given situation (Turner 1985). Group members then perform the actions that exemplify and reinforce group norms (Terry and Hogg 1996). As an individual categorizes himself or herself into an online group, the person will be more likely to behave (e.g., projecting online image) in accordance with the online group norm in the online space (Madrigal 2000). Online group norm means social influence on the group members (Venkatesh et al. 2003). Social identity thus influences one's self-presentation behavior through the mediation of online group norm (Terry, Hogg, and White 1999). Likewise, online group norm motivates people to have a presentation desire of digital identity to make similar impressions to those of others in the same online group in the online space. Hence, we hypothesize:

H3: Online group norm has a positive effect on presentation desire of digital identity in the context of online group.

To accomplish the presentation desire of digital identity, people have begun using digital items for symbolic communication in the online space because digital items have advantages in presenting diverse impressions and online images. Digital items are like physical possessions and function as tangible symbols of identity (Dittmar and Pepper 1992). It has been said that consumption serves to produce a desired self through the images and styles conveyed through one's possessions (Thompson and Hirschman 1995). The consumption of digital items thus enables users to associate themselves with objects that make their selves more tangible and visitors who land on their online sites perceive as surrogates for the individual who produced them (Schau and Gilly 2003). By examining an individual's digital item portfolios, others gain access to the possessor's intangible image (Schau and Gilly 2003). In contrast, textual communication is severely limited when it comes to self-presentation online. People can get digital items from their online group providers. For example, if a VC provider provides digital items for free then people can use them without purchase for the actual presentation of their digital identities. However, if the VC provider sells digital items then people should buy them for the self-presentation. Presentation desire also affects consumer behavior because it is associated with the degree of interest in maintaining a front through products that are used as props to convey an image of the self to other people (Cass 2001). Hence, we hypothesize:

H4: Presentation desire of digital identity has a positive effect on the intention of purchasing digital items in the context of online group.

4 Research Methodology

This study employed the survey research methodology because it enhances generalizability of results. We chose Cyworld (www.cyworld.com) as the context of our study. After logging into Cyworld, people can visit other members' mini-hompies. We randomly selected 500 mini-hompies (some of them are very well decorated and others are barely decorated) and left a survey invitation message with the URL of the online survey web site in the guestbook of each mini-hompy. The owners of the 500

mini-hompies and visitors to the mini-hompies could read the invitation message and participate in the survey. As incentive, we paid each participant US\$5 worth of Cy-world currency. A total of 217 complete and valid responses were collected over one week: age (mean = 24.6 years, s.d. = 6.7) and gender (male = 43.8%, female = 56.2%). More than 80% of respondents were in 20s and 30s.

For the development of the measurement instrument, we adopted existing validated scales and empirical procedures wherever possible. To measure purchase intention, we adapted scales from Dodds et al. (1991) by indicating target (digital items) and time (within the next six months). As for presentation desire of digital identity, we self-developed the scales because the construct is unique to our study. We adapted the personal innovativeness scales from Joseph and Vyas (1984) and Oliver and Bearden (1985) by considering innovativeness as personality traits. Scales for online group involvement were taken from Kyle et al. (2004). As for online group norm, we adapted scales from Taylor and Todd (1995) by considering the study context. We modified the self-efficacy scales from Taylor and Tod (1995) by considering the object of behavior and behavior context. The questionnaire employed the seven-point Likert scale (1 = strongly disagree, 7 = strongly agree).

5 Data Analysis and Results

We assessed the constructs for convergent validity and discriminant validity via confirmatory factor analysis (CFA) using LISREL. After establishing the convergent validity and discriminant validity, we examined the structural model based on the measurement model.

Fig. 2. Standard LISREL Solution normed $\chi^2 = 2.01$, RMSEA = 0.061, GFI = 0.86, AGFI = 0.83, CFI = 0.98, NFI = 0.96 (**: $p < 0.01$, ***: $p < 0.001$, ns: insignificant at the .05 level)

The structural model had good fit indices except goodness-of-fit index (GFI) (see Figure 2). GFI (0.87) was below the recommended threshold, but adjusted goodness-of-fit index (AGFI) was 0.83, which is above the cut-off value of 0.8. These results suggest that the structural model adequately fits the data. The standardized path coefficients could then be used for testing the hypotheses relevant to the main effects.

Personal innovativeness (H1), online group involvement (H2), and online group norm (H3) had significant effects on the presentation desire of digital identity, explaining 56 percent of the variance. Presentation desire of digital identity (H4) had significant effect on the intention of purchasing digital items, explaining 35 percent of the variance.

6 Discussion of Findings

There are several interesting findings in this study. This study first found that presentation desire of digital identity has a significant effect on the intention of purchasing digital items in the context of online group. Presentation desire of digital identity takes the role of key motivator of actual self-presentation online (Maslow 1943). People are more likely to use digital items for the presentation of digital identity in the online space because digital items have advantages in presenting diverse impressions and online images from the symbolic communication perspective. Thus, people should purchase digital items for the presentation of their digital identity.

This study also found that presentation desire of digital identity is influenced by self-concept from its personal perspective and social perspective. From the social perspective, an individual's involvement in a focal online group has significant effects on the presentation desire of his or her social digital identity in the online group. Group involvement influences pro-social behavior of the members towards the group (Ellemers, Spears, and Doosje 2002). A good case would be in the realm of sports, where high levels of team involvement lead to group behaviors such as wearing a team uniform.

The social perspective also extends to the group norm. Online group norm has significant effects on the presentation desire of social digital identity. Online group norm means social influence on the group members (Venkatesh et al. 2003). Online group members are thus more likely behave in accordance with the online group norm (Madrigal 2000). Following the online group norm regarding self-presentation online, people tend to have the presentation desire of digital identity in the same online group.

From the personal perspective, personal innovativeness as a personality trait has a significant effect on the presentation desire of digital identity. Presentation on the Web appeals to innovators because it makes a novel set of benefits and experiences available to them (Ziamou and Ratneshwar 2003). Our finding is similar to marketing and shopping research that suggest innovativeness in individuals lead them to form more positive intentions towards the use of an innovation with fewer positive perceptions to support them. It explains that people with higher level of innovativeness have higher presentation desire of their digital identities.

7 Conclusion and Implications

This study has examined why people pay for digital items in the context of VC by proposing a new construct, digital identity. This study highlights the significance of presentation desire of digital identity as a factor leading to the intention of purchasing digital items. This study also identifies the significance of online group norm and

online group involvement in enhancing the presentation desire from the social digital identity perspective and the significance of personal innovativeness from the personal digital identity perspective. These findings help to advance theory and offer practical insights in the context of Internet business and VC.

This research offers several implications for theory and practice. From the theoretical perspective, this study introduces a new construct, digital identity, and its corresponding presentation desire in the online space. Self-concept reflects the characteristics of the person and determines his or her behavior (Stets and Burke 2000; Verkuyten and Hagendoorn 1998). However, the Internet has provided a new context for identity exploration. It has been posited that one can have as many electronic personas as one has time and energy to create in the online space (Donath 1998). An identity established online is not necessarily tied to the identity of same person established offline. This study thus proposes a new construct, digital identity, to represent the identity established online.

This study explains how digital identity as a self-concept leads to the presentation of digital identity as self-presentation. While the concept of self-presentation had been studied in other fields (Ashforth and Mael 1989; Baumeister 1998; Turner et al. 1987; Verkuyten and Hagendoorn 1998), this is one of the first studies which examined it in the context of electronic commerce and virtual community. Especially, this study has explained the role and usage of digital items in the presentation of digital identity. Compared to the self-presentation in the offline space, presentation of digital identity in the online space is constrained by the digital representations constructed by interactive systems. This study has thus examined how the presentation desire of digital identity leads to the intention of purchasing and using digital items which are the digital representations constructed by interactive systems in the context of online group, VC.

From the practice perspective, this study shows how Internet companies can generate revenue from selling digital items especially in the context of VCs. While previous VCs had limitations in generating income, this study shows a new way of generating revenue from the sale of digital items which can be used for presenting digital identities in the online space. It highlights people's underlying desire to self-present online and their intent to purchase digital items for presentation in the VC context. Hence, it is definitely worthwhile for an Internet company as a provider of online group or VC to invest in efforts that can enhance the presentation desire of digital identity of its members.

References

1. Ashforth, B.E., Mael, F.: Social Identity Theory and the Organization. *Academy of Management Review* 14(1), 20–39 (1989)
2. Barreto, M., Ellemers, N.: You can't always do what you want: Social identity and self-presentational determinants of the choice to work for a low-status group. *Personality and Social Psychology Bulletin*, (26), pp. 891–306 (2000)
3. Baumeister, R.F.: The self. In: Gilbert, D.T., Fiske, S.T., Lindzey, G. (eds.) *Handbook of social psychology*, pp. 680–740. McGraw-Hill, New York (1998)

4. Calvert, S.L.: Identity construction on the Internet. In: Calvert, S.L., Jordan, A.B., Cocking, R.R. (eds.) *Children in the digital age: Influences of electronic media on development*, Praeger, Westport, CT, pp. 57–70 (2002)
5. Cass, A.O.: Consumer Self-Monitoring, Materialism, and Involvement in Fashion Clothing. *Australasian Marketing Journal* 9(1), 46–60 (2001)
6. Dittmar, H., Pepper, L.: Materialistic Values, Relative Wealth, and Person Perception: Social Psychological Belief Systems of Adolescents from Different Socio-Economic Backgrounds. In: Rudmin, F., Richins, M. (eds.) *Meaning, Measure, and Morality of Materialism*, Association for Consumer Research and School of Business, Provo, UT, pp. 40–45 (1992)
7. Donath, J.S.: Identity and Deception in the Virtual Community. In: Kollock, P., Smith, M. (eds.) *Communities in Cyberspace*, University of California Press, LA (1998)
8. Dodds, W.B., Monroe, K.B., Grewal, D.: Effects of Price, Brand and Store Information on Buyers' Product Evaluations. *Journal of Marketing Research* XXVIII, 307–319 (1991)
9. Ellemers, N., Spears, R., Doosje, B.: Sticking together or falling apart: ingroup identification as a psychological determinant of group commitment versus individual mobility. *Journal of Personal Social Psychology* (72), 617–626 (1997)
10. Havitz, M.E., Dimanche, F.: Leisure involvement revisited: Conceptual conundrums and measurement advances. *Journal of Leisure Research* (29), 245–278 (1997)
11. Hirschman, E.C.: Innovativeness, novelty seeking and consumer creativity. *Journal of Consumer Research* (7), 283–295 (1980)
12. Hogg, M.A., Terry, D.J.: Social identity and self-categorization processes in organizational contexts. *Academy of Management Review* (25), 121–140 (2000)
13. Jacobson, D.: Impression formation in cyberspace: Online expectations and offline experiences in text-based virtual communities. *Journal of Computer-Mediated Communication*, vol. 5(1) (1999)
14. Joseph, B., Vyas, S.J.: Concurrent validity of a measure of innovative cognitive style. *Journal of the Academy of Marketing Sciences* 12(2), 159–175 (1984)
15. Kyle, G., Graefe, A., Manning, R., Bacon, J.: Predictors of Behavioral Loyalty Among Hikers Along the Appalachian Trail. *Leisure Sciences*, vol. 26(1), pp. 99–118 (2004)
- Madrigal, R.: The influence of social alliances with sports teams on intentions to purchase corporate sponsors' products. *Journal of Advertising*, vol. 29(4), pp. 13–24 (2000)
16. Maslow, A.H.: A theory of human motivation. *Psychological Review* (50), 370–396 (1943)
17. Midgely, D.F., Dowling, G.R.: Innovativeness: The Concept and Measurement. *Journal of Consumer Research* 4, 229–242 (1978)
18. Oliver, R.L., Bearden, W.O.: Crossover effects in the theory of reasoned action: A moderating influence attempt. *Journal of Consumer Research* (12), 324–340 (1985)
19. Rice, R., Grant, A., Schmitz, J., Torobin, J.: Individual and network influences on the adoption and perceived outcomes of electronic messaging. *Social Networks* 12(1), 27–55 (1990)
20. Schau, H.J., Gilly, M.C.: We Are What We Post? Self-Presentation in Personal Web Space. *Journal of Consumer Research* 30(3), 385–404 (2003)
21. Schlenker, B.R.: *Impression management: The self-concept, social identity, and interpersonal relations* Brooks/Cole, Monterey, CA (1980)
22. Stets, J.E., Burke, P.J.: Identity Theory and Social Identity Theory. *Social Psychology Quarterly* 63(3), 224–237 (2000)

23. Suler, J.R.: Identity Management in Cyberspace. *Journal of Applied Psychoanalytic Studies* (4), 455–460 (2002)
24. Taylor, S., Todd, P.A.: Understanding information technology use: A test of competing models. *Information Systems Research* 6(2), 144–173 (1995)
25. Terry, D.J., Hogg, M.A.: Group norms and the attitude-behavior relationship. A role for group identification. *Personality and Social Psychology Bulletin* 22, 776–793 (1996)
26. Terry, D.J., Hogg, M.A., White, K.M.: The theory of planned behavior: Self-identity, social identity, and group norms. *British Journal of Social* (38), 225–244 (1999)
27. Thompson, C.J., Hirschman, E.C.: Understanding the socialized body: a poststructuralist analysis of consumers' self-conceptions, body images, and self-care practices. *Journal of Consumer Research* 22(2), 139–154 (1995)
28. Turner, J.C., Hogg, M.A., Oakes, P.J., Reicher, S.D., Wetherell, M.S.: Rediscovering the social group: A self-categorization theory. Basil Blackwell, Oxford, England (1987)
29. Turner, J.C.: Social categorization and the self-concept: A social cognitive theory of group behavior. In: Lawler, E.J. (ed.) *Advances in group processes: Theory and research*, pp. 77–122. JAI Press, Greenwich, CT (1985)
30. Venkatesh, V., Morris, M., Davis, G.B., Davis, F.D.: User acceptance of information technology: Towards a unified view. *MIS Quarterly* 27(3), 425–478 (2003)
31. Venkatraman, M.P.: 'The impact of innovativeness and innovation type on adoption. *Journal of Retailing* 67(1), 51–67 (1991)
32. Verkuyten, M., Hagendoorn, L.: Prejudice and self-categorization: The variable role of authoritarianism and in-group stereotypes. *Personality and Social Psychology Bulletin* (24), 99–110 (1998)
33. Ziamou, P., Ratneshwar, S.: Innovations in Product Functionality: When and Why Are Explicit Comparisons Effective? *Journal of Marketing* 67, 49–61 (2003)