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The Impact of Social Environment on Willingness to Pay for Online Content

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ABSTRACT

Charging subscription fees for content distributed through the Internet has emerged as a commonly adopted business model. This has drawn the attention of academics seeking to understand which factors motivate individuals' willingness to pay for online content. We assert that one important determinant is social influence. For this study, we conceptualized an individual's social environment as consisting of three levels, the micro, meso, and macro levels. We identified constructs existing at each of these levels—satisfaction, peer group preferences, and reputation, respectively—and examined the influence that they exerted on both willingness to pay and on each other in the context of online video games, specifically, massively multiplayer online games. Our results suggested that all levels of social influence play a role in an individual's product valuation process.

KEYWORDS

Online video games; social influence; willingness to pay

Introduction

Despite the dot-com bubble bursting at the turn of the 21st century, firms continue to adopt business models incorporating the Internet as a medium for conducting transactions and providing services to customers. This is not surprising, as 49.5% of the world's population were users of the Internet as of June 30, 2016, which represents a growth of more than 900% since the year 2000 (Internet World Stats 2016). This dramatic popularity appears to validate the widespread use of business strategies attempting to leverage the web.

In particular, providing online content for subscription fees has emerged as a promising revenue-generating activity. Online content can be broadly defined as digitalized, non-physical goods that are distributed through the Internet. One research report found that 40% of US Internet users have paid to access online content (Nanji 2014). Yet, notwithstanding the promise of this statistic, industries have varied in their ability to successfully utilize this business model; research suggests that companies selling their

content via the Internet commonly fail to generate sufficient revenue (Myllylahti 2014). For instance, 6 months after the Finnish financial newspaper *Taloussanomati* moved to an online-only format, it lost approximately 75% of its income (Thurman and Myllylahti 2009). This is particularly interesting as *Taloussanomati* was the first European newspaper to move to the online-only format. Conversely, one business sector that has experienced remarkable success has been the online video gaming industry. The video game market is projected to grow from \$67 billion in 2012 to \$82 billion in 2017, with 39% of revenues derived from online gaming sources by 2017 (DFC_Intelligence 2014). This prediction indicated a near-term market size of almost \$32 billion in online games.

Of interest to this research are massively multiplayer online games (MMOGs), which have demonstrated rapid subscriber and revenue growth in recent years (Ad2Games 2014). An MMOG is an online social environment offering interactive entertainment and capable of supporting millions of simultaneous players. Revenue models for MMOGs have traditionally been one of two types: subscriptions or virtual in-game economies (Alves and Roque 2007), with subscriptions being the dominant form of revenue acquisition. The largest MMOG by number of subscribers is World of Warcraft, which has used the subscription model to generate more than \$1 billion in 2013 alone (Tassi 2014).

Social influence can broadly be defined as the effect on an individual's attitudes, behaviors, and emotions that occur as the result of the interaction with others. Social influence has long been argued to be a critical factor in consumer behavior (Bhattacharya and Sen 2003). We believe this assertion holds true for the consumption of online content and that an in-depth examination of social influence could provide important insights for researchers and practitioners. In examining social influence, a concern for researchers has been the level at which the influence occurs (Brewer 1991; Povey et al. 2000). Three levels that have been discussed in social influence literature are the micro, meso, and macro levels (see Pettigrew 1996). The micro, or cognitive, level is concerned with the influence that an individual's traits have on his or her behavior. The meso, or interpersonal, level is concerned with "face-to-face" situations involving the interaction of individuals. The macro level is concerned with the influence that occurs from the broad social structure in which an individual resides. Of importance, social influence has been argued to occur across levels and influences at different levels often aggregate to become "more than the sum of their parts" (Povey et al. 2000, 8). As a result, social influence is more powerful in controlling individual actions than intuition might suggest.

To gain a better understanding of how social influence affects willingness to pay (WTP) for online content, we have attempted to identify influences

occurring at each level of social structure and examine the effect these have across levels using a top-down approach. To do this, influences that occur at the micro level, in the form of satisfaction, at the meso level, in the form of peer group preference, and at the macro level, in the form of reputation, were investigated. The way in which social influence is conceptualized in this research, as occurring at multiple levels, has not previously received attention in the information systems (IS) literature. In addition, to our knowledge, no attempts have been made to operationalize and test this framework in any context. Given that IS research typically overlooks the relationships occurring between social influence variables, we believe research is warranted.

The remainder of this study is organized as follows. In the next section, we briefly review the literature on consumer purchasing behaviors in the context of online content and provide a theoretical discussion about social influence. Hypotheses are then developed, followed by a description of our study's research methodology. The next section provides a summarization of the study's results. The last section provides conclusions based on our results, along with a brief discussion of the study's limitations and suggestions for further research.

Literature review

Online content

One early stream of research examining online content attempted to gauge the viability of business models that supply digitalized goods for a subscription fee. For instance, Gallagher, Auger, and BarNir (2001) researched the managerial assessment of website performance for magazine publishing firms adopting various forms of revenue models for their online content. Their findings suggested that charging subscription fees, charging for advertising, using the website to facilitate subscriptions to print publications, and the syndication of content to other online websites were all positively related to managers' perceptions about website performance. Pauwels and Weiss (2008) conducted a case study of a firm offering analysis and opinion articles for marketing professionals that changed its business model from generating revenue solely through advertising to restricting access to advanced content that required a subscription to view. They found that moving from free to fee negatively affected advertising revenue, due to slowing growth in free users, and reduced the effectiveness of advertising in generating free users.

Building on this stream of research are studies examining antecedents to consumers' WTP a fee for online content. Lopes and Galletta (2006), for example, explored individuals' WTP for online sports content. Using a costs/benefits approach, their results suggested that perceptions about

overall website technical quality and website reputation positively influence the expected benefits of paying for the content from that website, while reputation had a positive effect on perceived quality. In turn, expected benefits positively affected WTP. More recently, Punj (2013) examined consumer characters as possible determinants of WTP for general online content. Of interest, the results of this study suggested that propensity to pay for online content did not appear to predict the amount an individual was willing to pay. Specifically, while males and individuals from higher educational and income levels were found to be less willing to pay a fee to access online content, when individuals from these same demographics did pay for content they were willing to pay higher amounts than their counterparts. Table 1 provides a summary of recent research examining antecedents to consumers' willingness to purchase online content.

Social influence

Social influence has been determined to be a foundational antecedent of adoption behavior (Godes and Mayzlin 2004), and the acquisition of a good or service by others is a powerful stimulus in creating a desire to consume (Lichtenberg 1996). While homophily may determine the organizing principle for self-selected social environments (McPherson, Smith-Lovin, and Cook 2001), it is those social topographies and interactions that affect the elaboration and evolution of values, attitudes, and behaviors at the individual level (Cialdini and Goldstein 2004). Coercion has the potential to affect cognitive processes in an exchange interaction, but this research will be conducted on the grounds that individual attitudes and beliefs are altered for psychological reasons. One such reason is that individuals possess bounded rationality; they are constrained in their ability to effectively form attitudes and beliefs independently, due to limitations in available information, time, and cognitive capacity. Because individuals intuitively understand these limitations, they look to others on how to think and act. To illustrate, Smith et al. (2005) found that individuals who make purchases online seek out peer evaluations for use in the purchase decision-making process. They argue that this behavior is in part a result of consumers feeling overwhelmed by the number of product choices and amount of information provided by the Internet. Even with the reduction in search costs afforded by recommendation engines, individuals seek peer influence to make sense of choices in the market (Garg et al. 2009).

Another reason people are susceptible to social influence is that individuals prefer consonance between their beliefs and the beliefs held by others. Individuals possessing opinions not in agreement with others who are perceived to be similar experience cognitive dissonance. These differences

Table 1. Research examining antecedents to WTP for online content.

| Source | Context | Relevant findings |
|------------------------------------|--|---|
| Berger et al. (2015) | Digital vs. print newspapers | Results suggested that price and journalistic style were more important attributes to individuals in the valuation of a newspaper than format (print/digital). Nonetheless, individuals' WTP for printed editions of a newspaper was substantially higher than any digital format. |
| Wang et al. (2013) | Music | Perceived value and ethical self-efficacy for online piracy were found to be positively related to the purchase intention of music. In addition, ethical self-efficacy for online piracy was found to moderate (strengthen) the relationship between perceived value and purchase intent. |
| Huang (2012) | Virtual goods for a Facebook-based online game | Affective involvement and flow were both positively related to intentions to purchase virtual goods, while cognitive involvement had a negative relationship with purchase intention. Results also suggested that active control, reciprocal communication, and social identity had significant indirect effects on purchase intention. |
| Amblee and Bui (2011) | Microproducts (e-books) | E-books with customer reviews had significantly more sales than those without reviews, while the number of reviews for an e-book was significantly correlated with sales volume. Brand (author) reputation was positively related to book sales, while the absence/presence of reviews affected the correlation between author reputation and book sales. |
| Sinha, Machado, and Sellman (2010) | Music after removing digital rights management | Results from both studies suggested that the removal of DRM from music increased customers' WTP for online music while also reducing the likelihood that the individual will pirate the music. |
| Chiang and Assane (2009) | Music | Results suggested that income was positively related to WTP for digital music, while the perceived likelihood that the individual would get caught pirating music and perceived fines that would result had negative significant relationships with WTP. Ethical measures were also found to have significant positive relationships with WTP. |
| Papies and Clement (2008) | Movies | Past behavior, innovativeness, subjective norms, planned usage, and attitude were positively related to intention to adopt (for a fee), while price consciousness was negatively related. Relative advantage and compatibility were positively related to attitude, while complexity was negatively related. |

Note. DRM: digital rights management; WTP: willingness to pay.

create discomfort due to cognitive conflict, and people are accordingly motivated to alter their attitudes and opinions to resolve the dissonance. Evidence of this can be seen in technology adoption, where computer simulations have demonstrated a strong relationship between socially grounded personal communication networks and diffusion outcomes (Von Westarp and Wendt 2000). In the context of our study, Wu and Liu (2007) found that subjective norms had a significant positive relationship with the development of intentions to play online video games.

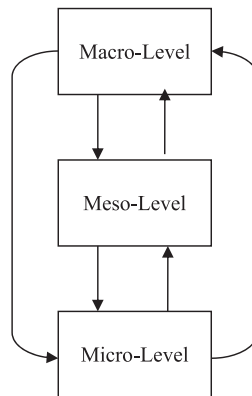


Figure 1. Pettigrew's multi-level framework.

In our study, we investigated the theory that social influence is the result of influence being exerted from entities existing at different levels of an individual's social structure and that entities residing on one level have the ability to influence entities that reside on another level. As articulated by Pettigrew (1996), societies are not merely the sum of individuals within them; macro-level entities possess their own set of characteristics that differ from the micro-level entities they comprise. Moreover, there are situational, or meso-level, entities that act to mediate the effects between the micro and macro levels, and like the micro- and macro-level, meso-level entities have their own properties (Brewer 1991; Povey et al. 2000). In this way, the micro, meso, and macro levels interact with each other to create a complex hierarchal social structure, as illustrated in Figure 1. Therefore, while an individual's attitudes, or micro-level influences, are important in understanding the consumer decision-making process, it is also necessary to examine how phenomena from higher levels of social structure affect the other levels of social influence.

Research model and hypotheses

WTP can be conceptualized as the maximum amount a consumer would spend to obtain a product. WTP does not merely reflect what a consumer has typically paid for a good in the past. Rather, it captures what a consumer is willing to pay in excess of the price historically paid. WTP, in the form of the contingent valuation method, has been utilized in numerous fields of study, including the IS literature. Examples are provided by Lopes and Galletta (2006) in the context of online sports content and Raghu et al. (2009) in the context of proprietary software in the presence of open-source software and freeware. For the purpose of this study, we define WTP as the

monetary expression of the benefits an individual expects to gain as a result of playing a particular online video game.

Satisfaction

Satisfaction has been demonstrated to be one of the most important factors in predicting consumer behavior (Oliver 2010). According to expectation-confirmation theory (Oliver 1980), satisfaction is an attitude that results from a mental comparison between the expected quality of a product or service and the level of perceived quality after consumption. An individual experiences satisfaction when the quality of the actual product or service outperforms expectations. Research has shown satisfaction to affect consumption decisions. For example, Devaraj, Fan, and Kohli (2002) studied the effect that satisfaction had on consumer channel preference for purchasing goods; that is, whether individuals prefer to make purchases through a brick-and-mortar establishment or through an e-commerce website. They found that satisfaction with an e-commerce website significantly affected an individual's preference of channel, while satisfaction was influenced by price and time savings, ease of use, and usefulness. A meta-analysis examined the role of various theories with regard to the adoption and use of technologies related to online consumer behavior and reported that expectation-confirmation significantly explained post-purchase intentions (Cheung, Chan, and Limayem 2005). These results suggest that satisfaction positively influences a customer's intention to reuse the site.

We argue that satisfaction represents a micro-level influence because it is an individual trait (attitude). Based on expectation-confirmation theory, we expect individuals to have formulated a level of satisfaction for an MMOG based on a quality assessment resulting from their experiences with the game. Individuals having higher levels of satisfaction from their gaming experiences will attribute higher levels of perceived value to the MMOG. Since WTP is a monetary expression of value, we posit that higher levels of satisfaction will result in greater WTP.

H1: Satisfaction has a significant positive relationship with WTP a subscription fee for an MMOG.

Peer group preference

One theory that examines social influence in the IS context is the social influence model of technology use (Fulk et al. 1990), which argues that an individual's perceptions, and consequently use, of media technology are to some degree socially constructed. Specifically, social influence is exerted by others through "overt statements" (Salancik and Pfeffer 1978), "behavior modeling and vicarious learning" (Bandura 1986), social norms, and "social

definitions of rationality” (Schmitz and Fulk 1991). While the theory does recognize that relatively objective properties also affect individual perceptions and use of technology, these technology characteristics are, in and of themselves, insufficient in explaining an individual’s evaluation. Of interest, this suggests that the choice of which media technologies to adopt may not necessarily reflect the goals that initially motivated the technology adoption. The social influence model further posits that social influence is most likely to occur within a personal communication network, as this is where an individual’s communications with others will happen most frequently. In this way, the values, attitudes, and behaviors of those within a personal communication network help to shape the perception and use of communication media.

For our study, we posit that individuals are members of peer groups through which word-of-mouth information flows contribute to product adoption and diffusion outcomes (Godes and Mayzlin 2004). Because of frequent communication and interaction among peers, group norms are formed and preferences tend toward homogeneity (Feldman 1984). This is particularly relevant because, in addition to normative behavioral constraints, the group may desire to use a common platform with which to engage and interact, such as that offered by MMOGs (Hirunyawipada and Paswan 2006). In the context of this research, this means that attitudes about online video games held by peer group members will grow to be similar over time. There are several psychological processes causing this convergence. First, because individuals desire to be associated with their peer group, they adjust their attitudes about online video games to be congruent with other peer group members. Furthermore, the disparity in opinions pertaining to online video games among peer group members creates cognitive dissonance. To eliminate this internal conflict and create a sense of balance, members will alter their beliefs about online video games to be in greater agreement with the group. Research based on the social influence model has found evidence supporting our arguments (Campbell and Russo 2003).

We argue that the social influence resulting from the association with a peer group occurs at the meso-level; individuals influence each other as a result of the direct interaction. We believe our use of peer group preference is an appropriate operationalization of meso-level influence, as peer group members are among the most likely people with whom an individual interacts to hold opinions about online video games. In this way, the actions and opinions of peer group members will affect the actions and behaviors of the focal individual. We, therefore, posit that peer group preference will have a positive effect on an individual’s WTP for online video games as

well as an individual's satisfaction with online video games.

H2: Peer group preference has a significant positive relationship with satisfaction for an MMOG.

H3: Peer group preference has a significant positive relationship with WTP a subscription fee for an MMOG.

Decomposing peer group preference

Academics have observed that “social influence is a process that involves complex processing of multiple direct and indirect information cues embedded in the individual's social world” (Schmitz and Fulk 1991, 493). As articulated by Bandura (1986), individuals do much of their learning through the observation and modeling of the actions, attitudes, and emotional responses of others. Research examining the social influence model in particular has treated usage and attitude as contributing factors to group norms (Schmitz and Fulk 1991). Based on these previous theoretical and empirical works, we argue that both peer actions and attitudes are dimensions that necessarily must be considered when gauging meso-level social influence. Therefore, we conceptualize peer group preference as a second-order construct with two contributing factors: specifically, perceived group usage frequency, which represents actions carried out by peer group members, and perceived group enjoyment, which represents attitudes held by peer group members. For the purposes of this study, we define perceived group usage frequency as an individual's belief about the degree to which people with whom they frequently communicate spend their leisure time playing an MMOG. We define perceived group enjoyment as an individual's belief about the degree to which people with whom they frequently communicate derive a positive emotional benefit from playing an MMOG. We used a second-order construct to represent peer group preference, as this will provide a more parsimonious examination of our theory than looking at these first-order contributing constructs separately.

Reputation

Reputation, defined as “stakeholders' perceptions about an organization's ability to create value relative to competitors” (Rindova et al. 2005, 1033), may be also conceived as a critical information element leading to product adoption outcomes. It has been observed that a good reputation is developed when customers believe a company offers products of a high quality (Rindova et al. 2005). In the instance where imperfect information is available about a product, quality cues, such as reputation, are used to predict the quality attributes of a product prior to purchase (Dawar and Parker 1994). One view of how reputation influences individuals argues that it is

the result of imperfect information; consumers look to high-status actors, who they believe have greater ability to assess providers of products, for queues on how to act or think. In the context of this research, we posit that individuals are not fully capable of gauging the ability of all providers of online video games to create high-quality products. This is due to the lack of time and financial resources necessary to exhaustively sample and judge the multitude of available games. Because individuals want to maximize the benefits received from playing an MMOG, they look to the perceived opinion of the general population of online video game players. In the past, reputation information has been promulgated through peer-group-level word-of-mouth networks. However, recent developments in online feedback mechanisms have been found to function as effective reputation systems (Amblee and Bui 2011). Consequently, we foresee that the opinions of perceived influencers outside of the immediate peer group network will be considered and used to guide MMOG product adoption decisions despite a lack of first-person experience with the brand (Duan, Gu, and Whinston 2008). In the general context of our study, research has shown that brand reputation has the potential to exert influence on an individual's actions and beliefs. For instance, Resnick and Zeckhauser (2002) found that a seller's reputation as communicated via a recommendation engine was a predictor of future performance. In addition, evidence has linked reputation with higher levels of WTP (Lopes and Galletta 2006) and higher levels of customer satisfaction (Helm, Eggert, and Garnefeld 2010).

We assert that social influence that occurs from online reputation sharing corresponds to the macro level; it is the result of the social structure within which an individual resides and does not involve the direct interaction of actors. Based on the previously discussed theory and research, we hypothesize that reputation will be positively related to MMOG consumer WTP and satisfaction. Furthermore, we anticipate that reputation will have a positive effect on peer preference, as individuals within a peer group will be exposed to similar macro-level influences and affected in the same way as our focal individual.

H4: Reputation has a significant positive relationship with peer group preference for an MMOG.

H5: Reputation has a significant positive relationship with satisfaction for an MMOG.

H6: Reputation has significant positive relationship with WTP a subscription fee for an MMOG.

Interaction effects

The idea that social influences occurring at different levels interact in such a way that their effect on individuals' behaviors is greater than merely the

sum of their individual parts has not received much attention in the IS literature. However, one stream from the psychology literature offers some explanation as to why an interaction might be expected. The contingent-consistency hypothesis (Acocck and Defleur 1972) argues that perceived norms of the larger environment act to reinforce or inhibit the relationship between attitudes and behaviors. As articulated by Liska (1984), when consensus occurs in the social environment in which an individual resides about the norms of that social environment, that individual is more likely to possess “well-formed” attitudes, as reality has been more clearly defined. In turn, personal attitudes that are well formed have stronger effects on individual behavior than those developed under more uncertainty. Some evidence has offered support for the contingent-consistency hypothesis (e.g., Terry et al. 2000). For instance, Povey et al. (2000) investigated the role of perceived social support as a moderator. This meso-level social construct moderated the relationship between attitude and behavior intentions such that the attitude–behavior relationship became stronger as perceived social support increased.

Based on the contingent-consistency hypothesis, we posit that there will be a three-way interaction effect among reputation, peer group preference, and satisfaction for an MMOG. We expect that as an individual perceives the social environment to be characterized by increasingly positive norms with regard to a given online video game, that individual will develop more well-defined attitudes about that game. Consequently, these attitudes will have a stronger effect on that individual’s behaviors.

H7: Reputation and peer group preference will moderate the relationship between satisfaction and WTP a subscription fee for an MMOG such that the relationship will be stronger as reputation and peer group preference increase.

Control variables

We conducted an extensive review of literature and found research suggesting that an individual’s age (Agarwal, Animesh, and Prasad 2009; Williams et al. 2009), income level (Agarwal et al. 2009; Williams et al. 2009), gender (Agarwal et al. 2009), and level of education (Agarwal et al. 2009) can have significant effects on the adoption decision for both online games and the Internet in general. In addition, research has suggested that income (Whitehead et al. 1995; Chiang and Assane 2009) and the actual usage amount of a good (Whitehead et al. 1995) have significant positive relationships with WTP. As such, we have included the above mentioned as control variables in our statistical analysis. Our research model is presented in Figure 2.

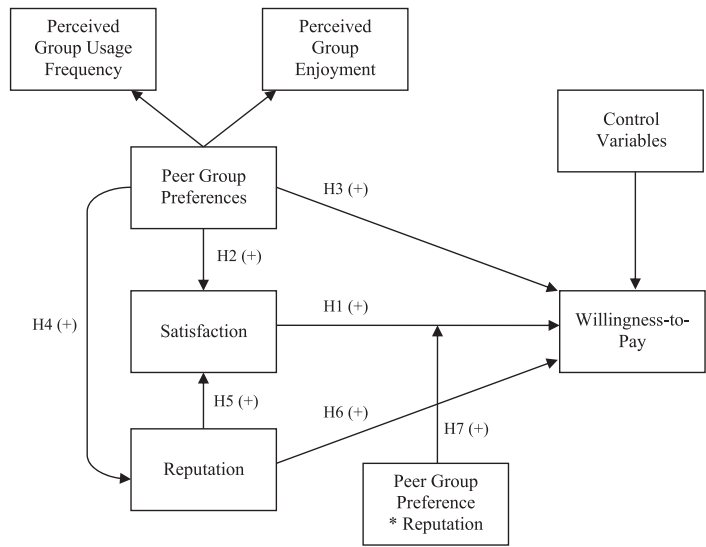


Figure 2. Research model.

Methodology

Individuals who play MMOGs were targeted as respondents for this study. To gather data, an online survey methodology was used. Our surveys were distributed by placing a link on Internet message boards of popular online video games. We created eight versions of the instrument, each being customized specifically for the MMOG message board on which the survey link was placed. An online survey methodology was adopted for several reasons. First, the Internet provides the ability to collect a relatively diverse sample. Moreover, given that our target respondents play online video games, the full pool of potential respondents has access to the Internet. Online surveys also have the added benefit of providing anonymity, which helps to reduce potential bias.

Instrument development

To develop our instrument, we conducted a review of the literature to identify previously validated measurements. Items measuring satisfaction (Flavian, Guinaliu, and Gurrea 2006; Cyr 2008; Chang and Chen 2009), technology usage frequency (Igbaria, Guimaraes, and Davis 1995; Hsu and Lu 2004), enjoyment (Sun and Zhang 2006; Okazaki, Skapa, and Grande 2008; Wu et al. 2009), and reputation (Flavian et al. 2006; Lopes and Galletta 2006; Casalo, Flavian, and Guinaliu 2008) were identified and modified to reflect the context of our study. All items utilized a 7-point Likert scale. We modeled our second-order construct using a procedure discussed by Wetzels et al. (2009).

The WTP measurement used in our study was adapted from previous research (Lopes and Galletta 2006). We used a contingent valuation method

to measure our primary dependent variable, as it has been argued to be ideal for eliciting WTP from individuals (Ajzen and Driver 1992). In particular, a sealed-bid second-price auction was adopted, which employs an open-ended WTP elicitation. Open-ended solicitations work well when respondents are familiar with paying for the product of interest, while at the same time avoiding starting point bias that results from the use of other WTP techniques (Boyle et al. 1996).

To control for gender and the video game associated with each case, dummy variables were used. Ordinal, categorical responses were used to control for age, household income, education, and hours spent each week playing the video game associated with each case; these variables were treated as interval variables. Scales used to measure game usage frequency (Griffiths, Davies, and Chappell 2004), age (Shukla, Sharma, and Swami 2010), and income (Cronovich, Daneshvary, and Schwer 1997) were adopted from the literature. We believe this approach was appropriate, as increases in category values represent higher levels for the control variables. As such, the information we wish to control for was sufficiently captured.

Data analysis

A two-step data analysis was used in this research. First, the validity of our instrument was statistically confirmed, followed by a statistical testing of our hypotheses. This was accomplished using partial least squares (PLS) path modeling via SmartPLS 2.0 (Ringle et al. 2005). We believe that PLS is the most appropriate statistical technique to use for our research, as the constructs of our study have not been frequently tested together; our primary construct of interest, WTP, has a large number of predictor variables; and we utilized nominal and ordinal variables in our model.

Results

Data collection and screening

For the purpose of testing our hypotheses, links to our online survey were placed on web forums for eight online games: *World of Warcraft*, *Lord of the Rings Online*, *Combat Arms*, *League of Legends*, *Final Fantasy XIV*, *Pirates of the Burning Sea*, and *EverQuest II*. These online games were chosen based on their popularity among online gamers at the time of data collection. Furthermore, we wanted the online games selected to represent a variety of revenue models. Our final selection thus represents three online video games that require a monthly fee to play, two games that previously charged a monthly fee to play but changed revenue models within the last

several months, and two games that have always been available to play for free. The data collection period for this phase of our research was 3 weeks. At the end collection period, a total of 323 respondents started our survey.

Before we began validating the instrument, we examined the data for invalid responses and outliers. An examination of the IP addresses recorded automatically by the online survey software suggested that there were no duplications. We identified 6 surveys that had extreme responses and 47 surveys that were incomplete, which we removed from further analysis. We then analyzed our data for multivariate outliers using the Mahalanobis distance measure. This analysis suggested that 9 cases were outliers, which were removed from the sample. The data screening process left us with a total sample of 261 cases for use in hypothesis testing. Chin (1998) suggests that the minimum sample size to conduct PLS should be at least 10 times larger than the number of exogenous constructs related to the most complex endogenous construct. Given our research model, the suggested minimum sample size was 150, which our study exceeded. Table 2 provides the aggregated details about characteristics for our respondents.

Instrument validation

The next step in our analysis was to statistically examine the validity and reliability of our instrument using a method discussed by Gefen and Straub (2005). Convergent validity was confirmed by calculating *t* values for item loadings on their respective latent variables via a bootstrap resampling technique. This analysis indicated that one item for our satisfaction construct did not load significantly, which was dropped from further analysis. Discriminant validity was confirmed by first examining correlations between latent variable scores and individual item scores for substantial cross-loadings. This analysis revealed that one item from perceived group usage frequency and two items from perceived group enjoyment had potentially problematic cross-loadings, so these items were dropped from further analysis. A final PLS analysis was conducted that confirmed that all retained items met our previously mentioned criteria for convergent and discriminant validity. The average variance extracted statistics for all latent variables were greater than the suggested minimum of .50 while also being larger than the squared correlations between latent variables (Fornell and Larcker 1981). The composite reliability for each of the latent variables was larger than the recommended minimum of .70 (Nunnally 1978), suggesting that our instrument demonstrated acceptable reliability.

With respect to our second-order construct, peer group preference, Chin (2003) suggests that if the standardized path coefficients between first-order and second-order constructs exceed .70, the model demonstrates good fit to

Table 2. Respondent characteristics.

| | | |
|--|-----|-------|
| Gender | | |
| Male | 234 | 89.7% |
| Female | 27 | 10.3% |
| Age | | |
| 17 or younger | 36 | 13.8% |
| 18–24 | 126 | 48.3% |
| 25–34 | 73 | 28.0% |
| 35–44 | 16 | 6.1% |
| 45–54 | 6 | 2.3% |
| 55–64 | 3 | 1.1% |
| 65 or older | 1 | 0.4% |
| Education | | |
| Some high school | 28 | 10.7% |
| High school/GED | 32 | 12.3% |
| Some college | 99 | 37.9% |
| 2-year college degree | 19 | 7.3% |
| 4-year college degree | 52 | 19.9% |
| Graduate degree | 28 | 10.7% |
| Professional degree | 3 | 1.1% |
| Household income | | |
| < \$25,000 | 70 | 26.8% |
| \$25,000–\$49,999 | 83 | 31.8% |
| \$50,000–\$74,999 | 55 | 21.1% |
| \$75,000–\$99,999 | 20 | 7.7% |
| \$100,000–\$124,999 | 19 | 7.3% |
| \$125,000–\$149,999 | 8 | 3.1% |
| > \$150,000 | 6 | 2.3% |
| Game play location | | |
| Home | 254 | 97.3% |
| Place of work | 3 | 1.1% |
| Public location | 0 | 0.0% |
| Other | 4 | 1.5% |
| Connectivity type | | |
| Dial-up/Asymmetric digital subscriber line | 47 | 18.0% |
| Cable | 179 | 68.6% |
| Local area network | 16 | 6.1% |
| Leased line | 4 | 1.5% |
| Other | 15 | 5.7% |
| Years playing online games | | |
| 0–1 | 8 | 3.1% |
| 2–3 | 36 | 13.8% |
| 4–5 | 38 | 14.6% |
| 6–7 | 49 | 18.8% |
| 8–9 | 38 | 14.6% |
| 10–11 | 48 | 18.4% |
| 12–13 | 23 | 8.8% |
| 14–15 | 15 | 5.7% |
| 16+ | 6 | 2.3% |
| Hours per week of game play | | |
| 0–5 | 29 | 11.1% |
| 6–10 | 54 | 20.7% |
| 11–15 | 59 | 22.6% |
| 16–20 | 39 | 14.9% |
| 21–25 | 27 | 10.3% |
| 26–30 | 16 | 6.1% |
| 31–35 | 15 | 5.7% |
| 36–40 | 7 | 2.7% |
| 41–45 | 3 | 1.1% |
| 46–50 | 4 | 1.5% |
| 51+ | 8 | 3.1% |

Table 3. Latent variable statistics.

| | AVE | CR | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------|-------|-------|------------------|------------------|------------------|------------------|------------------|-------|
| Group 1. Enjoyment | 0.746 | 0.898 | 1.000 | | | | | |
| Group 2. Preference | 0.636 | 0.913 | 0.935 $p < .001$ | 1.000 | | | | |
| Group 3. Usage frequency | 0.744 | 0.897 | 0.711 $p < .001$ | 0.914 $p < .001$ | 1.000 | | | |
| 4. Reputation | 0.697 | 0.901 | 0.495 $p < .001$ | 0.420 $p < .001$ | 0.265 $p < .001$ | 1.000 | | |
| 5. Satisfaction | 0.750 | 0.923 | 0.612 $p < .001$ | 0.507 $p < .001$ | 0.301 $p < .001$ | 0.646 $p < .001$ | 1.000 | |
| 6. Willingness-to-Pay | 1.000 | 1.000 | 0.184 $p = .001$ | 0.194 $p = .002$ | 0.172 $p = .003$ | 0.249 $p < .001$ | 0.243 $p < .001$ | 1.000 |

AVE: average variance extracted; CR: composite reliability.

the data. The path estimates between our first-order constructs, perceived group usage frequency and perceived group enjoyment, and our second-order construct were .914 and .935, respectively. Further, the R^2 statistics for these latent variables were .836 and .874. These statistics suggest that our modeling of peer group preference as a reflective second-order construct provides a good fit for the data and was appropriate.

Last, we administered Harman's single factor test to determine the severity of common-method bias. The χ^2 statistic from the single factor analysis was significant ($df=90$, $p < .001$). In addition, comparative fit index (CFI) = .667, root mean square error of approximation (RMSEA) = .178, goodness of fit index (GFI) = .612, and adjusted goodness of fit index (AGFI) = .481. We conclude that common-method bias is not a serious problem. Table 3 provides latent variable statistics.

Hypothesis testing

We began hypothesis testing by specifying our main effects model, which included control variables, theoretical constructs, and the dependent variable, WTP. Using a path weighting scheme (Chin 1998), we calculated the standardized paths and t values for the specified relationships. With respect to our control variables, our dummy variable for *League of Legends* was not found to have a path estimate significantly different than zero. All other video game dummy variables had significant positive path estimates with WTP. We interpret this to mean that players of *League of Legends* had a significantly lower WTP than individuals who played other games examined in our study. For our respondent characteristics, hours of play and age had significant path estimates. Age was negatively related to WTP, indicating that as individual moves into an age category representing an older individual, WTP decreased. Hours of play was positively related to WTP, indicating that as an individual moves into an hours of play category representing a higher level of game play, WTP increased. The remaining control variables, gender, income, and education category did not have significant relationships with WTP.

With respect to our constructs of theoretical interest, the relationship between satisfaction and WTP was significant ($\beta = .243$, $p < .001$),

supporting hypothesis 1. The relationship between peer group preference and satisfaction was significant ($\beta = .285$, $p < .001$), supporting hypothesis 2. The relationship between peer group preference and WTP was not significant ($p = .086$). However, an examination of the correlation matrix for our latent variables (Table 3) shows that group preference and WTP significantly correlate ($r = .194$, $p = .002$). At the same time, peer group preference has significant correlations with both satisfaction ($r = .612$, $p < .001$) and reputation ($r = .495$, $p < .001$). We conclude that the lack of significance between peer group preference and WTP is due, to some degree, to duplicate variance; the variance in WTP explained by peer group preference is also explained, to a large degree, by satisfaction and reputation. We, therefore, argue that hypothesis 3 is partially supported; in the absence of satisfaction and reputation, group preference has a significant positive relationship with WTP. Given the results of our first three hypotheses, we conclude that peer group preferences has a significant indirect relationship with WTP, which we calculated to be equal to .069.¹ The relationship between reputation and group preference was significant ($\beta = .420$, $p < .001$), supporting hypothesis 4. The relationship between reputation and satisfaction was significant ($\beta = .524$, $p < .001$), supporting hypothesis 5. Last, the relationship between reputation and WTP was significant ($\beta = .168$, $p = .017$), supporting hypothesis 6. Given these results, we conclude that reputation has a significant indirect relationship with WTP equal to .153.

The next step of our analysis was to calculate the effect size for our main effects on WTP. The R^2 for the main effects model was .317 ($F = 8.155$, $p < .001$). Based on this, we calculated the f^2 effect size statistic to be .464. According to Cohen (1988), f^2 statistics of .02, .15, and .35 represent small, medium, and large effects sizes. Therefore, we conclude that our main effects model had a large effect size on WTP. Large effects are “characterized by the study of potent variables or the presence of good experimental control or both” (Cohen 1988, 13). The R^2 for satisfaction was .481, which results in an f^2 of .927; this is a remarkably large effect size considering that control variables were not related to this construct. The R^2 for group preference was .177, which results in an f^2 of .215, a medium effect size.

The last step in our hypotheses testing was to analyze the data for interaction effects. To accomplish this, we followed the procedure outlined by Hensler and Fassott (2010); standardized latent score variables were calculated running our main effects model in SmartPLS and imported into SPSS 18 to create interaction terms. These latent score variables and interaction terms were then used to conduct multiple regression. As suggested, we included all possible two-way (lower-order) interaction terms in our

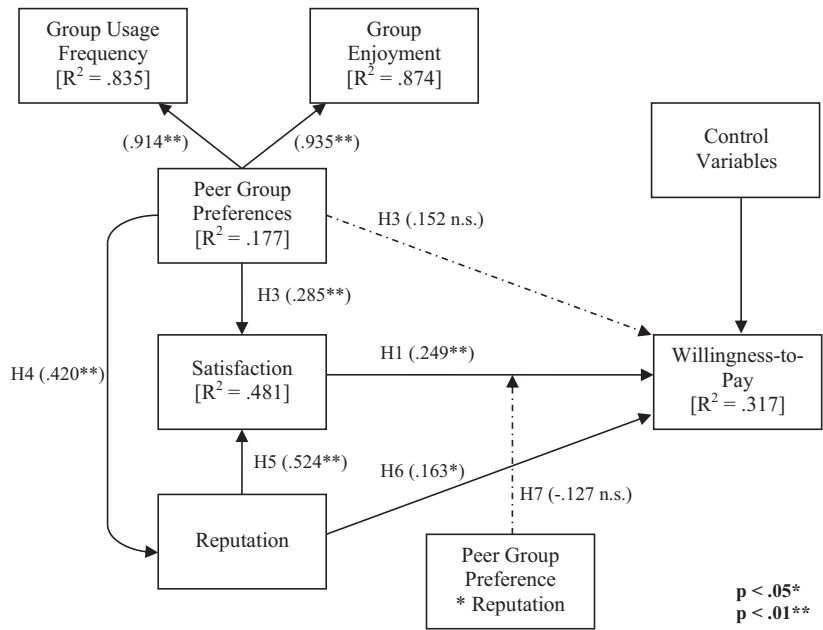


Figure 3. Study results.

regression analysis. We conducted our regression analysis by entering our independent variables in blocks. The first block contained our main effects model. As with our PLS analysis, the R^2 for this model was .317 ($F = 8.150$, $p < .001$). The second block entered into our regression equation contained three pairs of two-way interaction terms. The overall R^2 for this model was .320 ($F = 6.727$, $p < .001$). The change in R^2 was .003, which was not a significant improvement ($\Delta F = .374$, $p = .772$). The third block entered into our regression equation included the three-way interaction term. The overall R^2 for this model was .326 ($F = 6.500$, $p = .073$). The change in R^2 was .006, which was not a significant improvement over the two-way interaction model ($\Delta F = 2.117$, $p = .147$). None of our interaction terms had significant relationships with WTP, including our three-way interaction term ($\beta = -.127$, $p = .071$). We conclude that hypothesis 7 was not supported (Figure 3).

Discussion

The primary theoretical interest of this research was the influence that a person's social environment has on WTP a subscription fee for online content in the context of online video games. To accomplish this, social influence was conceptualized as occurring on three levels within an individual's social environment: the micro, meso, and macro levels. Using a survey research methodology, our results provide evidence on how these different

levels of social influence motivate individuals to pay for an MMOG as well as how they affect each other.

Our first hypothesis postulated that satisfaction, a micro-level social influence, would have a positive effect on WTP a subscription fee for an MMOG, which our results supported. Satisfaction has long been recognized in both the marketing and consumer literature streams as a critical antecedent in the formation of purchase decisions, and our study's results support this notion. Furthermore, satisfaction had the largest standardized path coefficient with WTP ($\beta = .249$) for any of the social influence variables included in our research model. This is not surprising, as micro-level influences are in the closest proximity to an individual's decision process in terms of social space. This interpretation would suggest that IS researchers attempting to develop parsimonious models for the purpose of predicting individual behavior might be best served to focus on micro-level constructs (i.e., individual attitudes). The technology acceptance model (Davis 1989) provides a good example of this approach. Yet, despite satisfaction's strong predictive ability, an examination of the correlation matrix reveals that satisfaction did not have the highest correlation with WTP among the constructs of interest included in our study, suggesting that it would be erroneous to simply conclude that an examination of micro-level influences is sufficient for understanding the formation of WTP.

Our next two hypotheses were concerned with the effect that peer group preference, a meso-level influence, had on WTP and satisfaction. Hypothesis 2 posited that peer group preference would have a positive relationship with satisfaction, and the results supported this assertion. However, we only found partial support for the hypothesis that peer group preference would have a positive relationship with WTP. While a simple bivariate correlation analysis revealed that group preference and WTP have a significant correlation with each other, the standardized path coefficient in our main effects model was not significant. Therefore, we concluded that peer group preference has a significant indirect effect of WTP and that satisfaction acts as a mediator between group preference and WTP.

The results related to peer group preference are not trivial, as they have important implications for academics. In the IS literature, research examining the relationship between the influence of people closest to an individual and that individual's behaviors has produced mixed results. For example, in empirical research used to confirm their formulation of The unified theory of acceptance and use of technology (UTAUT), Venkatesh et al. (2003) found that the relationship between social norms (meso-level social influence) and behavior intention was complex; the presence of moderators was necessary for the relationship to be significant. Yet, an examination of the

correlation matrix for their study reveals that their social influence construct was significantly related to other independent variables used in their model, while at the same time social norms significantly related to behavior intention. Similar results can be found in other IS research. For research focused strictly on developing predictive models, the decision not to investigate the mediating effect between social influence variables and other independent variables can be justified. As our results illustrate, however, for researchers attempting to explain individual behaviors, identification of indirect effects is necessary for gaining a better understanding of social influence's true impact.

We had three hypotheses concerned with the effect that reputation, a macro-level social influence construct, had on WTP and lower levels of social influence. Like previous research (Lopes and Galletta 2006), our study's results supported the assertion that reputation positively affects WTP. More interesting than reputation's direct effect on WTP were its indirect effects. The hypothesis that reputation would positively affect satisfaction was also supported. This result was surprising in that the magnitude of the standardized path coefficient was quite large. Our results also supported the hypotheses that reputation would have a positive relationship with peer group preference. Similar to its relationship with satisfaction, the standardized path coefficient was considerable in magnitude. Thus, our research suggests reputation affects WTP indirectly through multiple paths in our model. At the same time, reputation had the highest correlation with WTP for all the constructs of interest included in our research model. Taken together, these results suggest that while reputation is not the most important predictor in our model, it may be the most critical factor in the formation of WTP.

The relationships that take place between our social influence variables necessitate additional discussion. Peer group preference and reputation accounted for 48.1% of the variance for satisfaction. The marketing literature has traditionally pursued a research agenda based on the assumption that satisfaction for a product is the result of its "performance" (see Oliver 2010). Yet, our results suggest that nearly half of the variance for satisfaction can be explained by an individual's perceptions of what others think and do. The degree to which individuals' attitudes are collectively converging as a result of social influence as opposed to objective properties of a given online game is debatable. However, we argue that, given the results of our study, perceptions might play a more crucial role than objective considerations in the formation of personal attitudes and, consequently, purchase decisions. This suggests that firms that sell online content, and video game providers, in particular, may be well served to commit resources to creating a positive brand image and reputation. Creating a high-quality product,

while important, may not be sufficient to facilitate successfully charging subscription fees.

Our last hypothesis was concerned with whether an interaction effect existed between our micro-, meso-, and macro-level social influences such that their effect on WTP was larger than the sum of their individual parts. The results of our study did not provide evidence to support this hypothesis. This was not completely unanticipated, considering that studies examining this relationship have at times produced mixed results (see Grube and Morgan 1990). Andrews and Kandel (1979) found that the effect of contingent-consistency varied based on the stage in a behavioral sequence that was being examined (i.e., no use, use intention, or continued use), as well as which peer group's norms were being considered. It is therefore possible that the context of our study played a role in the failure to support hypothesis 7; for example, contingent-consistency may have less effect on individuals already playing a given online video game than on individuals that have yet to play the same game.

Limitations

It should be noted that several limitations exist for this study. Methodologically, the use of an Internet-based survey to gather data raises some concerns for validity, due to the difficulty of ensuring that the information provided by the respondents is accurate. Moreover, bias resulting from self-selection also presents a challenge to our study. However, these are valid concerns for all survey research and not exclusive to Internet-based research. The context in which the study is conducted, online video games, presents another limitation. While the purpose of this research is to investigate social influence's effect on WTP for online content, our data only represents the single focus of video games. The selection of this focus was based on the exceptional success that online video games have experienced in generating revenues via subscription fees. However, video games are not the only content being provided online for a subscription fee; there are also newspapers, magazines, and market research firms, just to name a few. The degree to which our results are generalizable to these other contexts is uncertain. In the same vein, another limitation was the use of satisfaction, peer group preference, and reputation to represent the micro, meso, and macro levels of social influence. The selection of these particular constructs was based on the context of the study, theory, and the discretion of the researchers. While we assert that operationalizing our research model in this way provides good correspondence to the overall theory of social influence driving this research, it can be debated that alternative constructs could have been used instead.

Future research

There are several possible approaches future research might take that potentially could provide additional insights to the results observed in this study. As observed in the limitations section, our research examined only a single context of online content. Yet, firms currently utilize the Internet to distribute several types of information-based products. Replication of our research to determine whether social influence affects WTP for other online content, such as news or music, could provide guidance to practitioners on how to better market their digital content. An additional approach of future research might also conceptualize the various levels of social influence using different constructs. For example, an alternative construct to represent the meso level of social influence might be social norms.

Our research takes what has been termed as a substantialist approach (Emirbayer 1997): Actors were isolated in their examination, the time frame of the research represents a snapshot, and the characteristics of theoretical interest are attributes of the actor. This approach provides valuable insights into individual behavior and has been the dominant epistemology adopted by social scientists in the area of information systems. However, an alternative view to understanding individual attitudes and behaviors can be found in the relationalist school of thought. In this approach, the primary theoretical interest is the relationship between actors. Through the examination of interactions among actors, relationalist attempt to describe how processes occur. In the context of our research, our substantialist approach provided evidence that phenomena occurring in meso- and macro-social structures influence the individuals who reside within them, while a relationalist approach would attempt to identify how the influence occurs. Thus, a relationalist research approach would help provide a complementary understanding to the results of this study. Methodologically, a relationalist approach would entail different considerations than those of this research, such as the use of social network analysis.

Conclusions

The provision of content through the Internet appears to be a business model increasingly adopted by firms. Yet, as the bursting of the dot-com bubble has demonstrated, the integration of the Internet as a distribution media is not, in and of itself, a solution to remaining viable for many businesses. Business models that use the Internet to distribute content to consumers are still in a state of infancy; academics and for-profit organizations alike continue to struggle with understanding the best ways to generate revenue from online content. In particular, subscription-based business models have emerged as one possible approach to generating revenue.

In this study, we examined the effect that social influence has on WTP for online video games. Our results suggested that all levels of social influence play a considerable role in the valuation process. Only by examining the relationships between constructs occurring at different levels of a social structure does the magnitude of interaction that occurs between them become apparent. We conclude by saying that our results validate what many practitioners already know and practice: Influencing the perceptions of the masses has to the potential influence the behavior of individuals.

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Note

1. $c = c' + ab$

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References

- Acock, A. C., and M. L. Defleur. 1972. A configurational approach to contingent consistency in the attitude-behavior relationship. *American Sociological Review* 37 (6):714–26.
- Ad2Games 2014. The Global PC/MMO Market 2013–2017. <https://www.ad2games.com/insights/the-global-pcmmo-market-2013-2017-infographic/> (accessed June 5, 2015).
- Agarwal, R., A. Animesh, and K. Prasad. 2009. Social interactions and the “digital divide”: Explaining variations of internet use. *Information Systems Research* 20 (2):277–94.
- Ajzen, I., and B. L. Driver. 1992. Contingent value measurement: On the nature and meaning of willingness to pay. *Journal of Consumer Psychology* 1 (4):297–316.
- Alves, T. R., and L. Roque. 2007. Because players pay: The business model influence on MMOG design. *Situated Play: Proceedings of the 2007 Digital Games Research Association Conference*, 41–57. Tokyo.
- Amblee, N., and T. Bui. 2011. Harnessing the influence of social proof in online shopping: The effect of electronic word of mouth on sales of digital microproducts. *International Journal of Electronic Commerce* 16 (2):91–113.
- Andrews, K. H., and D. B. Kandel. 1979. Attitude and behavior: A specification of the contingent consistency hypothesis. *American Sociological Review* 44 (2):298–10.
- Bandura, A. 1986. *Social foundations of thought and action*. Englewood Cliffs, NJ: Prentice-Hall.
- Berger, B., C. Matt, D. M. Steininger, and T. Hess. 2015. Paper or screen-differences in customer preferences and willingness to pay between traditional and digital content services. 48th Hawaii International Conference on System Sciences: 3384–93.

- Bhattacharya, C. B., and S. Sen. 2003. Consumer–company identification: A framework for understanding consumers’ relationships with companies. *Journal of Marketing* 67 (2):76–88.
- Boyle, K. J., F. R. Johnson, D. W. McCollum, W. H. Desvousges, R. W. Dunford, and S. P. Hudson. 1996. Valuing public goods: Discrete versus continuous contingent-valuation responses. *Land Economics* 72 (3):381–96.
- Brewer, M. B. 1991. The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin* 17 (5):475–82.
- Campbell, S. W., and T. C. Russo. 2003. The social construction of mobile telephony: An application of the social influence model to perceptions and uses of mobile phones within personal communication networks. *Communication Monographs* 70 (4):317–34.
- Casalo, L., C. Flavian, and M. Guinaliu. 2008. The role of perceived usability, reputation, satisfaction and consumer familiarity on the website loyalty formation process. *Computers in Human Behavior* 24 (2):325–45.
- Chang, H. H., and S. W. Chen. 2009. Consumer perception of interface quality, security, and loyalty in electronic commerce. *Information & Management* 46 (7):411–7.
- Cheung, C. M., G. W. Chan, and M. Limayem. 2005. A critical review of online consumer behavior: Empirical research. *Journal of Electronic Commerce in Organizations* 3 (4):1–19.
- Chiang, E. P., and D. Assane. 2009. Estimate the willingness to pay for digital music. *Contemporary Economic Policy* 27 (4):512–22.
- Chin, W. W. 1998. The partial least squares approach for structural equation modeling. In *Modern methods for business research*, ed. G. A. Marcoulides, 295–336. London: Lawrence Erlbaum Associates.
- Chin, W. W. 2003. Issues and opinion on structural equation modeling. *MIS Quarterly* 22 (1):7–16.
- Cialdini, R. B., and N. J. Goldstein. 2004. Social influence: Compliance and conformity. *Annual Review of Psychology* 55 (1):591–621.
- Cohen, J. 1988. *Statistical power analysis for the behavioral science*. Hillsdale, NJ: Erlbaum.
- Cronovich, R., R. Daneshvary, and R. K. Schwer. 1997. The determinants of coupon usage. *Applied Economics* 29 (12):1631–41.
- Cyr, D. 2008. Modeling web site design across cultures: Relationships to trust, satisfaction, and e-loyalty. *Journal of Management Information Systems* 24 (4):47–72.
- Davis, F. D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13 (3):319–39.
- Dawar, N., and P. Parker. 1994. Marketing universals: Consumers’ use of Brand, price, physical appearance, and retailer reputation as signals of product quality. *Journal of Marketing* 58 (2):81–95.
- Devaraj, S., M. Fan, and R. Kohli. 2002. Antecedents of B2C channel satisfaction and preference: Validating e-commerce metrics. *Information Systems Research* 13 (3):316–33.
- DFC_Intelligence 2014. Worldwide Market Forecasts for the Video Game and Interactive Entertainment Industry. <http://www.dfcint.com/archive/wp/wp-content/uploads/2014/06/WWfortoc-dfc1014.pdf> (accessed June 5, 2015).
- Duan, W., B. Gu, and A. B. Whinston. 2008. Do online reviews matter? An empirical investigation of panel data. *Decision Support Systems* 45 (4):1007–16.
- Emirbayer, M. 1997. A manifesto for relational sociology. *American Journal of Sociology* 103 (2):281–317.
- Feldman, D. C. 1984. The development and enforcement of group norms. *Academy of Management Review* 9 (1):47–53.

- Flavian, C., M. Guinaliu, and R. Gurrea. 2006. The role played by perceived usability, satisfaction and consumer trust on website loyalty. *Information & Management* 43 (1):1–14.
- Fornell, C., and D. F. Larcker. 1981. Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research* 18 (1):39–50.
- Fulk, J., J. Schmitz, and C. W. Steinfield. 1990. A social influence model of technology use. In *Organizations and communication technology*, eds. J. Fulk and C. W. Steinfield., 117–140. Newbury Park, CA: Sage Publications.
- Gallagher, J. M., P. Auger, and A. BarNir. 2001. Revenue streams and digital content providers: An empirical investigation. *Information & Management* 38 (7):473–85.
- Garg, R., R. Telang, M. Smith, D. Krackhardt, and R. Krishnan. 2009. Peer influence and information diffusion in online networks: An empirical analysis. CIST'09: Conference on Information Systems and Technology: 10–11.
- Gefen, D., and D. Straub. 2005. A practical guide to factorial validity using PLS-graph: Tutorial and annotated example. *Communications of the Association for Information Systems* 16 (5):91–109.
- Godes, D., and D. Mayzlin. 2004. Using online conversations to study word-of-mouth communication. *Marketing Science* 23 (4):545–60.
- Griffiths, M., M. Davies, and D. Chappell. 2004. Demographic factors and playing variables in online computer gaming. *CyberPsychology & Behavior* 7 (4):479–87.
- Grube, J. W., and M. Morgan. 1990. Attitude-social support interactions: Contingent consistency effects in the prediction of adolescent smoking, drinking, and drug use. *Social Psychology Quarterly* 53 (4):329–39.
- Helm, S., A. Eggert, and I. Garnefeld. 2010. Modeling the impact of corporate reputation on customer satisfaction and loyalty using partial least squares. *Handbook of partial least squares concepts, methods and applications*. eds. V. E. Vinzi, W. W. Chin, J. Henseler, and H. Wang, 515–34. Heidelberg, Germany: Springer.
- Hensler, J., and G. Fassott. 2010. Testing moderating effects in PLS path models: An illustration of available procedures. *Handbook of partial least squares: Concepts, methods, and applications in marketing and related areas*. eds. V. E. Vinzi, W. W. Chin, J. Henseler, and H. Wang, 713–35. Heidelberg, Germany: Springer.
- Hirunyawipada, T., and A. K. Paswan. 2006. Consumer innovativeness and perceived risk: Implications for high technology product adoption. *Journal of Consumer Marketing* 23 (4):182–98.
- Hsu, C. L., and H. P. Lu. 2004. Why do people play online games? An extended TAM with social influences and flow experience. *Information & Management* 41 (7):853–68.
- Huang, E. 2012. Online experiences and virtual goods purchase intention. *Internet Research* 22 (3):252–74.
- Igbaria, M., T. Guimaraes, and G. B. Davis. 1995. Testing the determinants of microcomputer usage via a structural equation model. *Journal of Management Information Systems* 11 (4):87–114.
- Internet World Stats 2016. Internet Users in the World. <http://www.Internetworldstats.com/stats.htm> (accessed October 25, 2016).
- Lichtenberg, J. 1996. Consuming because others consume. *Social Theory and Practice* 22 (3):273–97.
- Liska, A. E. 1984. A Critical examination of the causal structure of the fishbein/azjen attitude-behavior model. *Social Psychology Quarterly* 47 (1):61–74.
- Lopes, A. B., and D. F. Galletta. 2006. Consumer perceptions and willingness to pay for intrinsically motivated online content. *Journal of Management Information Systems* 23 (2):203–31.

- McPherson, M., L. Smith-Lovin, and J. M. Cook. 2001. Birds of a feather: Homophily in social networks. *Annual Review of Sociology* 27 (1):415–44.
- Myllylahti, M. 2014. Newspaper paywalls - the hype and the reality. A study of how paid news content impacts on media corporation revenues. *Digital Journalism* 2 (2):179–94.
- Nanji, A. 2014. Are consumers willing to pay for content from online publishers? MarketingProfs. <http://www.marketingprofs.com/charts/2014/26182/do-consumers-pay-for-content-from-online-publishers> (accessed October 24, 2016).
- Nunnally, J. C. 1978. *Psychometric theory*. New York, NY: McGraw-Hill.
- Okazaki, S., R. Skapa, and I. Grande. 2008. Capturing global youth: Mobile gaming in the U.S., Spain, and the Czech Republic. *Journal of Computer-Mediated Communication* 13 (4):827–55.
- Oliver, R. L. 1980. A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research* 17 (4):460–9.
- Oliver, R. L. 2010. *Satisfaction: A behavioral perspective on the customer*. 2nd ed. Armonk, NY: M.E. Sharpe.
- Papies, D., and M. Clement. 2008. Adoption of new movie distribution services on the internet. *Journal of Media Economics* 21 (3):131–57.
- Pauwels, K., and A. Weiss. 2008. Moving from free to fee: How online firms market to change their business model successfully. *Journal of Marketing* 72 (3):14–31.
- Pettigrew, T. F. 1996. *How to think like a social scientist*. New York, NY: HarperCollins.
- Povey, R., M. Conner, P. Sparks, R. James, and R. Shepherd. 2000. The theory of planned behavior and healthy eating: Examining additive and moderating effects of social influence variables. *Psychology and Health* 14 (6):991–1006.
- Punj, G. 2013. The relationship between consumer characteristics and willingness to pay for general online content: Implications for content providers considering subscription-based business models. *Marketing Letters* 26 (2):1–12.
- Raghu, T. S., R. Sinha, A. Vinze, and O. Burton. 2009. Willingness to pay in an open source software environment. *Information Systems Research* 20 (2):218–39.
- Resnick, P., and R. Zeckhauser. 2002. Trust among strangers in internet transactions: Empirical analysis of eBay's reputation system. *Advances in Applied Microeconomics* 11:127–57.
- Rindova, V. P., I. O. Williamson, A. P. Petkova, and J. M. Sever. 2005. Being good or being known: An empirical examination of the dimensions, antecedents, and consequences of a good reputation. *Academy of Management Journal* 48 (6):1033–49.
- Ringle, C. M., S. Wende, and S. Will. 2005. SmartPLS 2.0 (M3) Beta. Hamburg. <http://www.smartpls.de>.
- Salancik, G. R., and J. Pfeffer. 1978. A social information processing approach to job attitudes and task design. *Administrative Science Quarterly* 23 (2):224–53.
- Schmitz, J., and J. Fulk. 1991. Organizational colleagues, media richness, and electronic mail. *Communication Research* 18 (4):487–523.
- Shukla, A., N. K. Sharma, and S. Swami. 2010. Website characteristics, user characteristics and purchase intention: Mediating role of website satisfaction. *International Journal of Internet Marketing and Advertising* 6 (2):142–67.
- Sinha, R. K., F. S. Machado, and C. Sellman. 2010. Don't think twice, it's all right: Music piracy and pricing in a DRM-free environment. *The Journal of Marketing* 74 (2):40–54.
- Smith, D., S. Menon, and K. Sivakumar. 2005. Online peer and editorial recommendations, trust, and choice in virtual markets. *Journal of Interactive Marketing* 19 (3):15–37.

- Sun, H., and P. Zhang. 2006. Causal relationships between perceived enjoyment and perceived ease of use: An alternative approach. *Journal of the Association for Information Systems* 7 (9):618–45.
- Tassi, P. 2014. 'World of Warcraft' still a \$1B powerhouse even as subscription MMOs decline. *Forbes*. <http://www.forbes.com/sites/insertcoin/2014/07/19/world-of-warcraft-still-a-1bpowerhouse-even-as-subscription-mmos-decline> (accessed August 11, 2014).
- Terry, D. J., M. A. Hogg, and B. M. McKimmie. 2000. Attitude-behavior relations: the role of in-group norms and mode of behavioral decision-making. *British Journal of Social Psychology* 39 (3):337–61.
- Thurman, N., and M. Myllylahti. 2009. Taking the paper out of news: A case study of taloussanomat, europe's first online-only newspaper. *Journalism Studies* 10 (5):691–708.
- Venkatesh, V., M. G. Morris, G. B. Davis, and F. D. Davis. 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly* 27 (3):425–78.
- Von Westarp, F., and O. Wendt. 2000. Diffusion follows structure—a network model of the software market. Proceedings of the 33rd Annual Hawaii International Conference on IEEE, Maui.
- Wang, Y. S., C. H. Yeh, and Y. W. Liao. 2013. What drives purchase intention in the context of online content services? The moderating role of ethical self-efficacy for online piracy. *International Journal of Information Management* 33 (1):199–208.
- Wetzels, M., G. Odekerken-Schröder, and C. Van Oppen. 2009. Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration. *MIS Quarterly* 33 (1):177–95.
- Whitehead, J. C., G. C. Blomquist, T. J. Hoban, and W. B. Clifford. 1995. Assessing the validity and reliability of contingent values: A comparison of on-site users, off-site users, and non-users. *Journal of Environmental Economics and Management* 29 (2):238–51.
- Williams, D., M. Consalvo, S. Caplan, and N. Yee. 2009. Looking for gender: gender roles and behavior among online gamers. *Journal of Communication* 59 (4):700–25.
- Wu, J., and D. Liu. 2007. The effects of trust and enjoyment on intention to play online games. *Journal of Electronic Commerce Research* 8 (2):128–40.
- Wu, J. H., S. C. Wang, and H. H. Tsai. 2009. Why do players stick to a specific online game? The users and gratifications perspective. *Proceedings of the Fifteenth Americas Conference on Information Systems (AMCIS)*, San Francisco: 351.