



Proposing the online community self-disclosure model: the case of working professionals in France and the U.K. who use online communities

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Abstract

The global use of online communities has exploded to involve hundreds of millions of users. Despite the tremendous social impact and business opportunities afforded by these communities, little information systems (IS) research has addressed them – especially in a cross-cultural context. Our research proposes an online community self-disclosure model, tested in a cross-cultural setting using data provided by French and British working professionals. Our model is based on social exchange theory (SET) and social penetration theory (SPT), as well as on cross-cultural theory related to individualism-collectivism. SET explains that individuals engage in relationships when the perceived costs associated with the relationship are less than the expected benefits. SPT extends SET to explain that individuals participate in self-disclosure to foster relationships – reciprocation is the primary benefit of self-disclosure, whereas risk is the foundational cost of self-disclosure. Our study established several important findings: positive social influence to use an online community increases online community self-disclosure; reciprocity increases self-disclosure; online community trust increases self-disclosure; and privacy risk beliefs decrease self-disclosure. Meanwhile, a tendency toward collectivism increases self-disclosure. We further found that French participants had higher scores on horizontal individualism than British participants. Several other findings and their implications for practice are also discussed.

European Journal of Information Systems (2010) 19, 181–195.

doi:10.1057/ejis.2010.15; published online 9 March 2010

Keywords: self-disclosure; social influence; trust; privacy; reciprocity; culture

Introduction

Online social networking and community sites have become an extremely popular social force. New registrations for Facebook have averaged 250,000 per day since 2007, totaling 250 million active users in 2009; the number of active users doubles every 6 months; more than half of the active users use the site daily; active users average 20 min per day (Anonymous, 2009b). In 2009, MySpace reported 130 million active users, with the virtual communities localized in and translated into 20 different countries and languages (Anonymous, 2009a).

Online social networking does not simply represent an exploding social phenomenon; it is a trend that has many potential implications for business and information systems (IS). For example, there are more

Received: 30 March 2009
Revised: 22 September 2009
2nd Revision: 9 December 2009
Accepted: 11 December 2009

than 1 million Facebook developers and entrepreneurs who have developed more than 350,000 commercial applications for the 250 million active Facebook users (Anonymous, 2009b). These sites are increasingly being used as an ideal source of marketing research (Kozinets, 2002), as a way to enhance the impact of branding (Im *et al.*, 2008) and to increase demand for products (Miller *et al.*, 2009).

The potential business benefits of self-disclosure in online communities are profound. Such disclosures are an ideal and unique source of marketing research (Kozinets, 2002). This opportunity to gather information is particularly salient to marketing research because in traditional market-research approaches, only a small percentage of people self-disclose desired information (Robertshaw & Marr, 2006). Furthermore, many market researchers now think of branding as invoking a relationship between the brand and a consumer that can be greatly enhanced through online interactions – even though technical and non-interpersonal – through principles of interpersonal interaction that can be created by Web sites (Im *et al.*, 2008). Meanwhile, recent strategic economics research shows that the participation of businesses in online communities can enhance demand for companies' products (Miller *et al.*, 2009).

Other innovative business uses of self-disclosure in online communities include energizing internal innovation among organizational employees, building brand ambassador programs and support forums, discovering the most enthusiastic customers and leveraging them, motivating customers, etc. (Bernoff & Li, 2008). A related recent development in which social networking sites and online communities can dramatically change the landscape of business is part of what is termed the 'contribution revolution', where firms create contribution sites for stakeholders interested in a particular business; they often act as advocates for the business (Cook, 2008). These sites are now being leveraged by leading firms to gain cost advantages and even strategic advantages over competitors through literally having volunteers contribute to the firms (Cook, 2008). Such sites have been used to acquire free raw materials, build customer service forums through online community member participation or develop volunteer-run marketing on social networking sites, capital resources, enhanced design and development, and even production (Cook, 2008).

What is shared between the pure social aspects of online communities and more business-oriented online communities is the desirability of open self-disclosure, which fosters social relationships and/or enhances business connections with people who share an affinity for a brand or company. Thus, an important contribution that IS research can make to online communities is to explain why online community users disclose or withhold information. In utilitarian systems, intentions to use and to continue to use a system are primarily based on the perceived usefulness of the software and,

to a lesser extent, perceived ease of use (Davis, 1989; Davis *et al.*, 1989); however, research has shown that the reasons for using and self-disclosing in online communities are entirely different. The primary drivers of self-disclosure online are socially based factors. Specifically, people use social networking sites to form and foster relationships, and for disclosing and sharing information about themselves with others (Chiu *et al.*, 2006; Chang Lee & Kwon, 2008).

Self-disclosure research in online communities is just starting to emerge. One salient study applied social cognitive theory and social capital theory to predict factors that would encourage knowledge sharing in online communities (Chiu *et al.*, 2006). Recently, a study explained how online communities can foster trust and self-disclosure in customers (Porter & Donthu, 2008). Another study found that more personal self-disclosure by online reviewers increased positive perceptions of the reviews and increased sales in online electronic markets (Forman *et al.*, 2008).

Although social networking has vast global and cultural implications, little research has been conducted on cross-cultural online social networking. Most research has focused on homogeneous studies of either participants from the United States (U.S.) (e.g., Ellison *et al.*, 2007; Hargittai, 2007) or Asian participants (Ishii & Ogasahara, 2007). One study, however, evaluated online relationship differences between Japanese and Korean online community members (Ishii & Ogasahara, 2007). Another study found that Argentineans self-disclose more than U.S. participants, although the researchers did not consider electronic media (Horenstein & Downey, 2003). A more recent study looked at differences in social networking participation between the U.S. and India (Marshall *et al.*, 2008). To date, few researchers have studied European countries.

Given these pressing opportunities, this research focuses on explaining and predicting the drivers by which individuals disclose personal and/or private information to others within an online social network. We use the economics-based social exchange theory (SET) (Thibaut & Kelley, 1959), its key extension, social penetration theory (SPT) (Altman & Taylor, 1973), and communication privacy management (CPM) theory (Petronio, 2002) to ground our conceptual model and help to explain this self-disclosure process. We also consider individual- and national-level cultural differences as drivers of online self-disclosure. Our research uses professional participants from the U.K. and France.

We chose the U.K. and France because these two countries fit our criteria of cultural differences and high Internet usage. The Hofstede scores between the two countries were significantly different across power distance, individualism, uncertainty avoidance and masculinity (Hofstede, 1991). As explained by Hofstede (1991), *power distance* is the degree of inequality among individuals in the organization; *individualism* is the relationship between an individual and his or her

collective group or, in this study's case, online social network; *uncertainty avoidance* is the acceptance or tolerance of uncertainty; finally, *masculine* social values indicate the importance of showing off, achieving something visible or making money predominate, while feminine social values focus upon quality of life and personal relationships. In addition, the U.K. (43.8 million users) and France (40.9 million users) currently exhibit the second and third highest levels, respectively, of Internet usage in Europe (Anonymous, 2009c). The model that we developed is called the online community self-disclosure model. Two research questions drive the creation and testing of our model:

RQ1: *What social and environmental factors best predict self-disclosure in online communities?*

RQ2: *Do individual-level cultural differences affect self-disclosure in online communities, and do these individual-level differences extend to national-level differences? Moreover, are there self-disclosure differences between the French and British national cultures?*

Theoretical model

In this section, we propose a new theoretical model, the online community self-disclosure model, which predicts the key social factors that best predict why people self-disclose in online communities. *Self-disclosure* refers to what individuals voluntarily and intentionally reveal about themselves to others – including thoughts, feelings and experiences (Pearce & Sharp, 1973; Derlega *et al.*, 1993). Self-disclosure is voluntary and purposeful (Pearce & Sharp, 1973). Moreover, self-disclosure is generally a positive experience that includes benefits such as the formation of intimate associations (Altman & Taylor, 1973), reduced stress levels in the wake of traumatic experiences (Greenberg & Stone, 1992), social acceptance or approval for the individuals' ideas (Derlega *et al.*, 1993) and reclaimed internal energy that was once devoted to holding the sensitive information within (Pennebaker, 1989).

Self-disclosure has been conceptualized and measured along five separate dimensions: amount, depth, honesty, intent and valence (Wheless & Grotz, 1976; Wheless, 1978). Self-disclosure *amount* represents the frequency and duration of an individual's disclosures. *Depth* reflects the degree of intimacy in the communication. *Honesty* refers to the accuracy with which one communicates information about oneself. *Intent* reflects an individual's control and awareness over his or her self-disclosures. *Valence* is the positive nature of the information being disclosed in communication.

Self-disclosure plays an integral role in relationship development. Theorists have extended SET (Thibaut & Kelley, 1959; Jarvenpaa & Staples, 2001; Wasko & Faraj, 2005) as a foundation to explain the cognitive process

that individuals engage in before self-disclosing (Altman & Taylor, 1973), as well as to provide the requisite foundation to understand the cognitive processes individuals engage in before self-disclosing in online environments. SET posits that, before engaging in a relationship, individuals weigh the costs and benefits of the interaction, and decide whether to engage in the relationship. SET specifies that individuals actively assess the potential benefits and drawbacks of any activity before engaging in that behavior. Using this foundation, individuals engage in activities that promote relationships when the perceived costs associated with that behavior are less than the benefits expected from the action (Kankanhalli *et al.*, 2005). Individuals engage in activities with the expectation that they will receive intangible benefits from the interaction (Gefen & Ridings, 2002). These perceived benefits are evaluated against perceived costs to act as a cognitive guide for the individual.

Applied in an IS research context, research based on SET has shown that employees are more willing to exchange information and allow their organizations to claim ownership of that information if they believe the organization will reciprocate with increased recognition (Jarvenpaa & Staples, 2001). IS research has also indicated that professionals in electronic networks of practice tend to contribute more of their knowledge, as well as more helpful knowledge, to members in the network if the professionals perceive that the contribution will reciprocally increase their reputation in their profession (Wasko & Faraj, 2005). IS researchers have also applied SET to explain the cognitive process users engage in when deciding whether to contribute knowledge to knowledge repositories (Kankanhalli *et al.*, 2005). Regarding the implementation of customer relationship management systems, SET has been utilized to explain how implementation team responsiveness influences user evaluations and approval of the system (Gefen & Ridings, 2002). SET has also been applied to show the effects of trust on knowledge sharing in virtual teams (Staples & Webster, 2008), the impact of knowledge sharing on IS outsourcing success (Lee, 2001) and the effect of disclosure on relationships with electronic trading partners (Son *et al.*, 2005).

Whereas SET provides a relationship foundation for our model of self-disclosure, SET's primary focus is on relationships rather than self-disclosure. Social penetration theory (SPT) (Altman & Taylor, 1973) applies the essential concepts of SET to interpersonal communications generally and to self-disclosure specifically. SPT explains and predicts relational closeness, which is seen in the superficiality or depth of the self-disclosures in a relationship. SPT posits that 'people assess interpersonal rewards and costs, satisfaction and dissatisfaction, gained from interaction with others, and that the advancement of the relationship is heavily dependent on the amount and nature of the rewards and costs' (Altman & Taylor, 1973, p. 6; Taylor & Altman, 1975; Altman *et al.*, 1981). Such rewards may be exhibited in the form of reciprocal

disclosures from relational partners and increased liking, while costs may take the form of increased vulnerability and risks related to others (Altman & Taylor, 1973). As long as the cost-benefit differential remains positive, relational engagement through disclosure is likely to progress. Reciprocation is the foundation of self-disclosure benefits, whereas risk is the foundation of self-disclosure costs.

To better understand self-disclosure, SPT provides a powerful metaphor: individuals are like onions in that they possess many layers that collectively form an individual's total personality (Altman & Taylor, 1973). The outer or peripheral layers store more visible information about the individual, which can be assessed quite easily by others without much probing (e.g., biographical items). As the layers progress toward the center, they contain information about the individual, that is of increasing vulnerability and/or social undesirability. The deeper the characteristic resides in one's onion, the more the characteristic reflects one's total personality (Altman & Taylor, 1973). These more central layers are reached as relationships progress (Wolfe & Murthy, 2006), which acts as 'a continuously widening and deepening "wedge", ... proceeding to more intimate layers of exchange but also expanding at prior levels of interaction' (Altman & Taylor, 1973, p. 39).

People do not automatically self-disclose important information about themselves, despite their desire for acceptance and relational formation. Like onions, humans maintain protective outer layers that surround a delicate, central core representing the true, unadulterated self (Altman & Taylor, 1973). Such distal layers are initial impediments in the self-disclosure process; thus, they are not shed all at once. Rather, the segments of outer layers must first be exposed, experienced and peeled in succession before the inner, intimate layers are revealed. This gradual escalation of the revealing process is termed *social penetration* (Altman & Taylor, 1973) and provides the foundation for many communication studies in relational development (e.g., Gudykunst & Nishida, 1986; VanLear, 1987, 1991; Hensley, 1996; Walther & Burgoon, 1996). As individuals disclose more and more information regarding themselves (i.e., amount) to other members, it is likely that the disclosures will tend to reach toward the more central, more intimate cores (i.e., depth) of the relational partners during the progression of the relationships (Wheeless & Grotz, 1976; Wheeless, 1978).

Aside from the traditional cost-benefit approach to predicting self-disclosure, we believe that these models underestimate the power of an individual's cultural inclinations (e.g., which can be exhibited in terms of Hofstede's (1991) cultural dimensions) toward interacting and reciprocating with others. These cultural inclinations should directly affect the degree to which they feel comfortable with and inclined toward self-disclosure. The more that individuals are inclined to reciprocate disclosures with others, the more they will want to

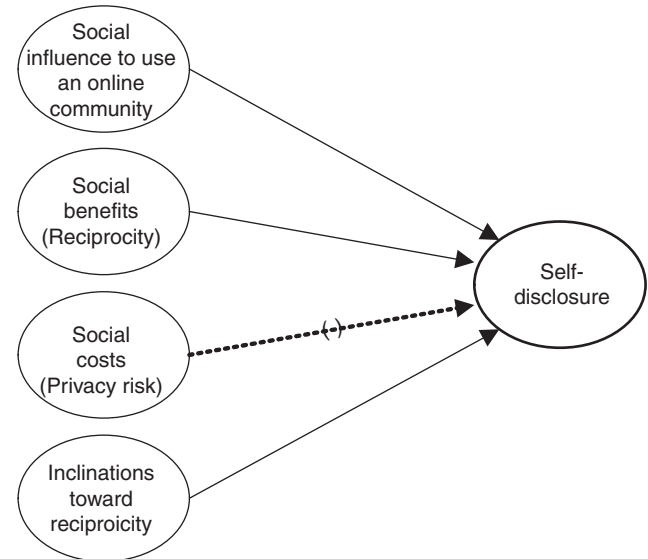


Figure 1 High-level online community self-disclosure model.

self-disclose, and we posit that their cultural dimensions directly affect this inclination to reciprocate. We further argue that social influence is a major factor, and provide additional support to fully account for this in a way that the previous models do not. Figure 1 summarizes our theoretical extension of SET and SPT, which we call the online community self-disclosure model.

Our particular operationalization of self-disclosure theory focuses on French and British working professionals who disclose information about themselves in online communities (e.g., MySpace and Facebook). To further operationalize our self-disclosure model, we examined key measures in the literature that were deemed to best represent the constructs of social influence to use an online community, social benefits, social costs and inclinations toward reciprocity. We further expand the notions of social costs and risks into measures of online community trust, privacy risk beliefs and anonymity. Finally, countries with individualistic cultural tendencies tend to be less open with others and less prone to reciprocity than those with collectivistic tendencies; thus, these measures are surrogates for cultural tendencies toward self-disclosure. Our extension of our underlying model's constructs into measures is depicted in Figure 2. Further justification and predictions are provided in the next section.

Social influence to use an online community

It was somewhat surprising to find that social influence has not been fully represented in previous self-disclosure models. *Social influence* is the degree to which an individual's beliefs, attitudes and/or behaviors are influenced by others in his or her environment (Deutsch & Gerard, 1955). The effects of social influence and socially accepted norms on others have been well documented in

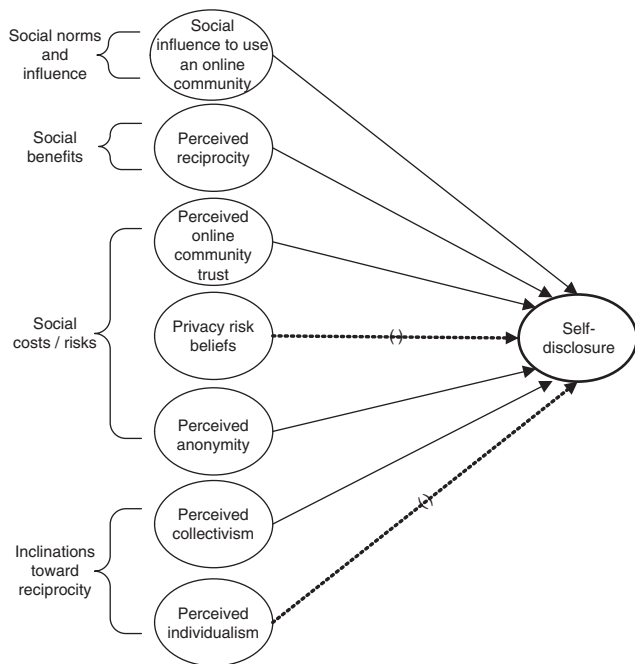


Figure 2 Extended online community self-disclosure model.

academic research (Fishbein & Ajzen, 1975; Venkatesh et al., 2003). For instance, both the theories of reasoned action (Fishbein & Ajzen, 1975) and planned behavior (Ajzen, 1991) posit that an individual's perception of acceptable group norms drives the intention to engage in a specific behavior. Bandura's (1977) social learning theory specifies that individuals' behaviors are learned responses from the behaviors of other individuals within the environment.

A recent examination of the power of social influence delineates various methods by which individuals are influenced or persuaded by others (Cialdini, 2001). Individuals have been shown to engage in an activity if they know or believe that others in their environment are also engaging in the activity. Cialdini (2001) refers to this principle as *social proof*, which can be utilized to begin the social-confirmation process. Individuals are drawn to others who are attractive, who share similarities and who easily give praise (Cialdini, 2001). When disclosing sensitive information, individuals who are easily influenced are likely to use these principles as a basis for their disclosure activity in electronic communities. Therefore, individuals may alter the frequency and nature of their disclosures to become more similar to those in their environment and thereby reach conformity by increasing their perceptions of attractiveness. Those who are susceptible to social influences may increase the rate of their disclosures and the level of honesty in their disclosures or vary positive and negative disclosures to make themselves more attractive and likable in their online community.

For brevity, we do not consider all forms of social influence in this study, instead, we base our conceptualization on that by Venkatesh et al. (2003), who focused on social influence to use a system. We apply the same in our context of online communities and for further clarification we refer to this construct as *social influence to use an online community*. In sum,

H1: An increase in the social influence to use an online community increases self-disclosure in online communities.

Reciprocity

Reciprocity is a special form of social influence that provides the key driving benefit for self-disclosure, per SPT. *Reciprocity*, also termed the dyadic effect, may best be explained as *quid pro quo* communication, synonymous with a 'you tell me and I'll tell you' (Jourard, 1971, pp. 25–26) mentality. Feelings of reciprocity signal to an individual that his or her relational partners are willing to accept a certain level of vulnerability to continue the relationship, thereby increasing the individual's assessment of the relationship's worth and the need to maintain it via future disclosures. This signal of relationship worth from reciprocity is a very positive message that fosters social bonding and intimacy that can be very satisfying and drive several perceived benefits (Ellison et al., 2007; Ko & Kuo, 2009), including increased well-being due to increased social support and social integration, bonding social capital, and bridge social capital. This reciprocal self-disclosure can be the core of building highly intimate relationships that are very rewarding and that even enhance social contact, satisfaction and one's overall quality of life.

Reciprocity is not only a benefit but also drives further self-disclosure. SPT suggests that by increasing the perceived worth of an interaction, one will likely disclose more personal/private information to maximize the benefit of the interaction (Kankanhalli et al., 2005). For example, as disclosure recipients acquire their relational partners' personal information over time, the recipients feel indebted to respond to the received messages at a similar level of intimacy or a similar depth of their multi-layered self. This reciprocal communication allows individuals to successfully test deeper and deeper layers of partners to extract information residing at the center core (Derlega et al., 1993) by further driving the communication wedge (Altman & Taylor, 1973). In communication, 'there is substantial evidence that people will engage in intimate self-disclosure – even with relative strangers – if they first become the recipients of such disclosure from their conversational partners' (Moon, 2000, p. 324). This has been demonstrated in online community self-disclosures where, essentially, by disclosing, the norm of disclosure is created, and the frequency of self-disclosure increases over time (Dietz-Uhler et al., 2005) – especially when online

self-disclosures are highly personal and involve emotional support (Barak & Gluck-Ofri, 2007). In summary,

H2: *An increase in perceived reciprocity increases self-disclosure in online communities.*

Social risks and costs

Trust in online community

In addition to reciprocity, researchers have noted the positive implication of trust in disclosure in a SET context (Lee, 2001; Staples & Webster, 2008). In fact, trust is the element that binds social exchanges (Pavlou & Gefen, 2005). Research has shown the relative importance of trust in forming behavioral intentions to engage in online shopping (Gefen *et al.*, 2003) and in providing a foundation for effective online marketplace exchanges (Ba & Pavlou, 2002; Pavlou & Gefen, 2004; Pavlou & Dimoka, 2006).

Trust is a necessity or prerequisite for honest communication in interpersonal communication (Emmert & Donaghy, 1981). We adapted Mayer *et al.*'s (1995) conception of *trust* and define *online community trust* as the degree to which an individual believes that those within his or her selected online community are reliable and are trustworthy with information that makes the individual vulnerable. From a social exchange and social penetration perspective, individuals who perceive that their relational partners can be trusted tend to disclose more, as high levels of trust decrease the risks associated with releasing sensitive information. In virtual communities, members have been shown to contribute knowledge of higher quality when they feel that they can trust the other members in their community (Chiu *et al.*, 2006). Even trust in online brands has been shown to increase the propensity to disclose information (Delgado-Ballester & Hernández-Espallardo, 2008; Lowry *et al.*, 2008). Recently, a study showed how online communities can foster trust and that such trust increases self-disclosure in customers (Porter & Donthu, 2008). Therefore, we posit that trust in an online social network will provide a necessary decrease in perceived risks and will allow an individual to enjoy the benefits received from disclosing information about him or herself within that network of individuals, thereby adjusting the cost-benefit scales to his or her advantage. In summary,

H3: *An increase in online community trust increases self-disclosure in online communities.*

Privacy risk beliefs

Privacy concerns have long been a major factor that has held people back from releasing information online (Malhotra *et al.*, 2004; Awad & Krishnan, 2006). These issues naturally extend to online self-disclosure. A recent extension to SPT, called CPM theory (Petronio, 2002),

specifically focuses the social exchange and penetration perspectives on the development and maintenance of individuals' communication privacy boundaries. CPM theory suggests that individuals maintain and coordinate many privacy boundaries with various communication partners depending on the perceived benefits and costs of self-disclosure. Individuals self-disclose in communication activities when the recipients' and senders' privacy boundaries overlap, creating a mutual, collective boundary of privacy for disclosure.

Such boundaries are desired because they lower the partners' privacy risk beliefs while simultaneously providing a channel for the benefits of disclosure to be attained. *Privacy risk beliefs* are 'the expectation that a high potential for loss is associated with the release of personal information' to others in their electronic communities (Malhotra *et al.*, 2004, p. 341). Unless these beliefs are lowered, individuals may likely perceive the costs of disclosing to be too high, thus forcing the individuals to refrain from disclosing any sensitive information about themselves. The more a person believes that disclosing personal information online is risky, the less information he or she will likely disclose. Therefore, individuals who believe that their privacy boundaries effectively minimize the risks associated with self-disclosure will engage in personal communication activities with others in their electronic community.

H4: *An increase in privacy risk beliefs decreases self-disclosure in online communities.*

Anonymity

Our hypothesis on anonymity is a special extension of privacy risk beliefs. Anonymity, which on its most basic level can be defined as the lack of personal identification, has been shown to be a factor that decreases inhibition (e.g., decreased evaluation apprehension), allowing individuals to share information that they would not otherwise feel comfortable sharing (Connolly & Jessup, 1990; Nunamaker Jr. *et al.*, 1991; Pinsonneault & Heppel, 1998; Lea *et al.*, 2001). *Disinhibition* occurs when an individual feels free to perform public behaviors and is predicted by the degree to which he or she experiences public and private self-awareness (Pinsonneault & Heppel, 1998). *Public self-awareness* 'involves attention to oneself as a social object and concerns appearance and the impressions made in social situations' (Pinsonneault & Heppel, 1998, p. 94). *Private self-awareness* refers to 'a focus on personal aspects of oneself, like perceptions, thoughts, and feelings' (Pinsonneault & Heppel, 1998, p. 95).

Anonymity can significantly affect disinhibition and other behaviors only when social evaluation is an important source of inhibition (public self-awareness) (Pinsonneault & Heppel, 1998, p. 97). We posit that these social ties to anonymity provide a strong link to

situations of self-disclosure, because self-disclosure involves people as social objects who are likely concerned about the impressions they make. Therefore, anonymity should provide more disinhibition to individuals in such social contexts, decreasing the risk of disclosing information and allowing individuals to feel more comfortable about self-disclosure. Notably, we posit that perceived anonymity is a more important influence than actual anonymity, as it is perceptions and beliefs that drive behaviors (Ajzen, 1991). Accordingly, less risk should increase self-disclosure according to SET and SPT, and we predict:

H5: *An increase in perceived anonymity increases self-disclosure in online communities.*

Inclinations toward reciprocity and social influence

Perceived collectivism and individualism

Finally, while several factors could account for an individual's inclinations toward reciprocity, we consider his or her cultural dimensions because these have a strong bearing on social influence, which is key to SPT. We propose that a helpful theoretical basis for predicting reciprocity is the theoretical cultural concepts of individualism and collectivism. Hofstede (1991) defines culture as the 'collective programming of the mind which distinguishes the members of one group or category of people from another' (p. 5). Similarly, more recent research defines culture as 'a system of implicit and explicit beliefs, values, norms, preferences, and behaviors that are stable over time, held in common by a group of people, and that distinguish one group from others' (Zhang & Lowry, 2008, p. 64).

Individualism and collectivism are the most studied and common cultural dimensions in the IS literature (Shin et al., 2007). We leverage these concepts here. *Individualism* 'describes cultures in which the ties between individuals are loose', and *collectivism* 'describes cultures in which people are integrated into strong, cohesive groups that protect individuals in exchange for unquestioning loyalty' (Hofstede, 1991; Zhang & Lowry, 2008, p. 65). From individualism-collectivism, four types of cultural tendencies have been identified: (1) *horizontal individualism* (when people have a tendency to strive to be unique and do their own thing); (2) *vertical individualism* (when people want to do their own thing and strive to be the best); (3) *horizontal collectivism* (when people merge themselves with their in-groups); and (4) *vertical collectivism* (when people submit to the authorities of the group and are willing to sacrifice themselves for their group) (Triandis, 2001; Triandis & Suh, 2002).

We submit that the cultural dimensions of individualism-collectivism likely have a large impact on whether a person is inclined to be socially influenced and to reciprocate in self-disclosure. The key difference between

these cultural dimensions is that those who are more collectivist tend to be more cohesive and integrated with other people in their interactions, whereas those with an individualistic inclination have much looser ties to people. Individualists emphasize uniqueness and independence in interpersonal interactions, while collectivists feel 'duty to the in-group', where 'the in-group refers to a group of people sharing similar beliefs and interests and which typically excludes outsiders' (Husted & Allen, 2008, p. 295). Given these differences, which have been shown in a large body of literature, we submit that those with strong collectivistic tendencies are more prone to social influence and reciprocity, while those with strong individualistic tendencies are less likely to be prone to these influences.

Hofstede's (1991) additional dimensions of power distance, uncertainty avoidance and masculinity were not included in our study because they do not directly relate to social networks, but are rather salient within particular, well-defined organizations. For example, power distance relates to inequality among individuals; however, in the social network, individuals have equal access and a level playing field. Second, individuals participating in online social networks have already embraced uncertainty by joining the online social network. A key limiting assumption in this research is that while it is true that some cultures and people tend to lean toward either individualism or collectivism (Zhang et al., 2008), recent research shows that individualism and collectivism themselves are not dichotomous – they are independent dimensions. Thus, a person's score in one does not necessarily reflect his or her score in another (Triandis & Gelfand, 1998; Oyserman, 2006; Husted & Allen, 2008). Hence, a typical person will exhibit some degree of individualism and some degree of collectivism. In sum,

H6: *An increase in perceived collectivism increases self-disclosure in online communities.*

H7: *An increase in perceived individualism decreases self-disclosure in online communities.*

Figure 3 depicts our full operational model.

Methodology

For our data collection, we hired a market research firm to provide us with randomly selected British and French participants from an online panel of working professionals who at least occasionally use online communities and social networking sites. Our collection was specifically intended to avoid traditional college students (ages 18–22) enrolled in universities, as they have been the focus of most online community research. There were 529 participants in total, 263 were from France and 266 were from the U.K.

Of the British participants, the average age was 36.0; the average level of Internet experience was 6.1 out of 7

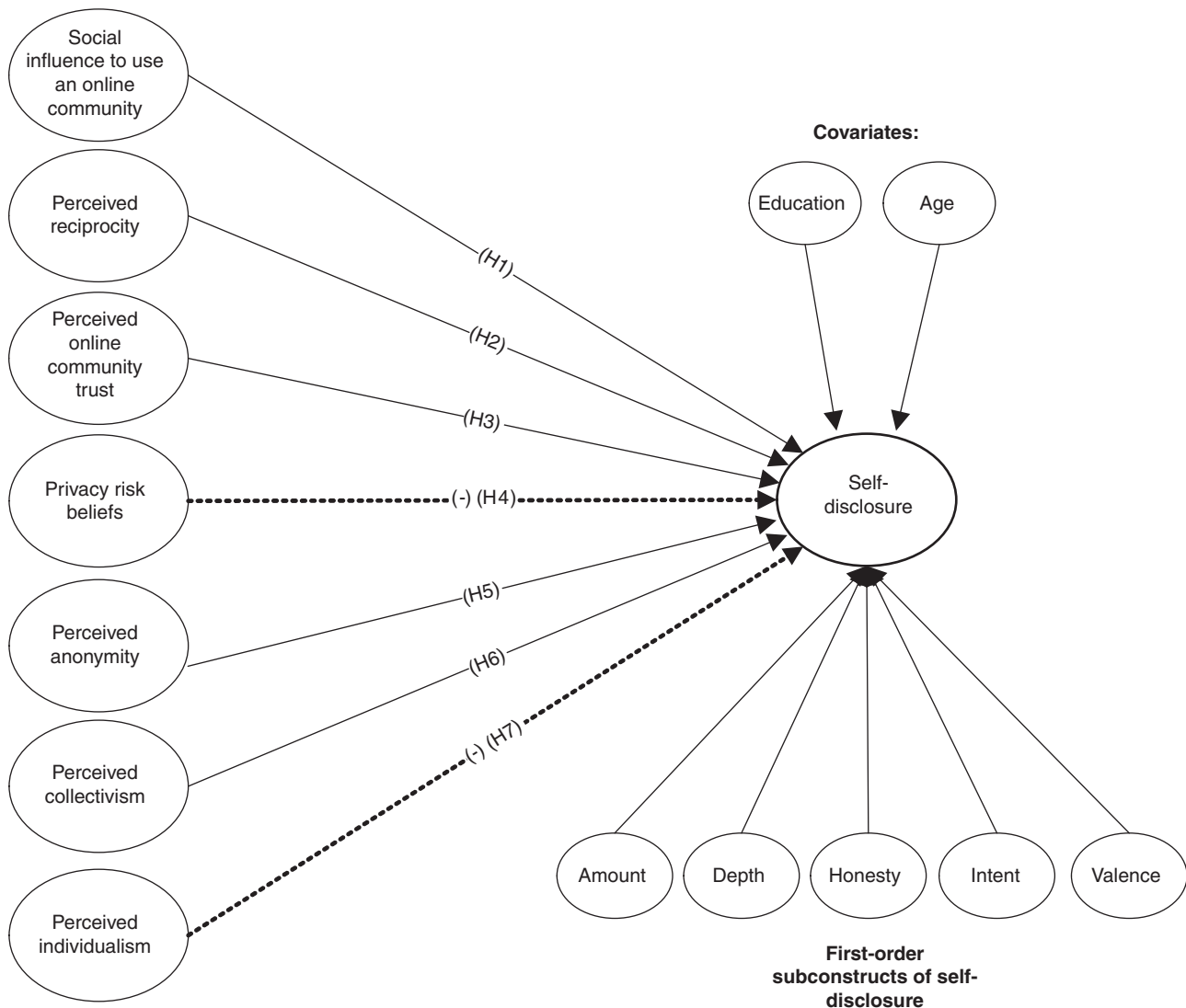


Figure 3 Operational online community self-disclosure model.

(highly experienced). Of the participants, 43.4% were male, 54.4% were female and 2.2% did not disclose gender; 55.9% carefully use privacy settings for online social networking; 52.2% frequently use Facebook; and 26.1% frequently use MySpace. In terms of British participants' use of any online community, 23.6% participate in an online community less than once a month, 15.1% participate a few times a month, 9.2% participate every week, 25.0% participate several times a week, 10.7% use their community once a day and 16.5% use their community several times a day.

Of the French participants, the average age was 33.6; average level of Internet experience was 5.9 out of 7 (highly experienced). Of the participants, 46.8% were male and 53.2% were female; only 27.0% carefully use privacy settings for online social networking; 22.4% frequently use Facebook; and 14.4% frequently use

MySpace. In terms of French participants' use of any online community, 30.4% participate in an online community less than once a month, 25.5% participate a few times a month, 9.5% participate every week, 17.9% participate several times a week, 9.9% use their community once a day and 6.85% use their community several times a day.

Measures

As detailed later in the analysis section, we were careful to establish cross-cultural equivalence (that measures and constructs were equal in both data collection settings) in our measures and general research setting. This was particularly important in the present case because the measures had to be carefully translated and back-translated from English to French. Establishing cross-cultural equivalence is a way of confirming validity

of measurement to ensure that differences in the results are not due to cultural differences in how respondents understand the underlying measurement. In other words, cross-cultural equivalence exists if respondents from both cultures and languages have the same understanding of what the measurement item means (Karahanna *et al.*, 2002; Lowry *et al.*, 2010). The specifics of all measures that were used are detailed in the supplementary online Appendix, with slight wording changes to focus on an online community context. Online community trust was adapted from Jarvenpaa & Tractinsky's (1999) online customer trust measure. Privacy risk beliefs were from Malhotra *et al.* (2004). Social influence was from Venkatesh *et al.* (2003), and specifically dealt with social influence to use a system. Reciprocity was taken from Kankanhalli *et al.* (2005) and Wasko & Faraj (2005). Anonymity was created only to represent lack of identification, as based on Pinsonneault & Heppel's conceptualization (1998). The collectivism-individualism measures, including the horizontal and vertical dimensions, were from Triandis & Gelfand (1998).

Analysis

Due to space limitations, most of the details of our analysis are captured in our supplementary online Appendix. As an overview, we performed a partial least squares (PLS) analysis, using PLS-GRAPH version 3.0. We first established factorial validity on our measures using the latest techniques for convergent validity and discriminant validity, as explained and demonstrated previously (Chin *et al.*, 2003; Lowry *et al.*, 2008; Lowry *et al.*, 2009), and we demonstrated high composite reliability, as summarized in Table 1. Next, we used a couple of techniques to establish that our study was not subject to common methods bias. We then carefully established the cross-cultural equivalence of our French and British samples.

Table 1 Composite reliability

Construct	Composite reliability
Social influence to use an online community	0.86
Reciprocity	0.85
Trust in online community	0.94
Privacy risk beliefs	0.87
Anonymity	0.89
Self-disclosure: amount	0.87
Self-disclosure: valence	0.85
Self-disclosure: intent	0.83
Self-disclosure: honesty	0.87
Self-disclosure: depth	0.86
Horizontal individualism	0.76
Horizontal collectivism	0.80
Vertical individualism	0.79
Vertical collectivism	0.83

Testing the model

Given our validity checks, we then tested the path model. Figure 4 summarizes the results of the interaction model. Variance explained is indicated for each construct as R^2 . The path coefficients, or betas (β 's), are indicated on the paths between two constructs, along with their direction and significance. The significance of the path estimates was calculated using a bootstrap technique with 200 re-samples. The second-order, formative construct of self-disclosure is composed of the first-order subconstructs of amount, depth, honesty, intent and valence. Table 2 summarizes the hypotheses, the path coefficients and the t-values for each path. We also confirmed that self-disclosure can be conceptualized as a second-order factor composed of amount, depth, honesty, intent and valence. Honesty, depth and amount were shown to be the strongest contributing factors.

Exploring differences between France and the U.K.

To further address RQ2, we statistically compared the major independent variable (IVs) in the study to see if there were any differences between the French and British participants (see Table A6 in the supplementary online Appendix). We first found that there was no statistical difference in overall individualism or collectivism between the countries; however, French participants did have higher scores on horizontal individualism than British participants. Overall, British participants had higher self-disclosure rates than French participants. We finally ran separate path models for each country to see if there were any differences between the two countries. These comparisons are summarized in Table 3. To be able to statistically compare the path coefficients between the two models required additional multi-group analysis, as detailed in Table A7 in the supplementary online Appendix. To summarize, we found no statistical differences between the paths in the models, and the effect sizes in the differences in the paths were negligible. This allows us to predict one overall model for both cultures.

Discussion

This study proposes a theoretical model of online self-disclosure – the online community self-disclosure model – based on SET and SPT. SET explains that individuals engage in relationships when the perceived costs associated with the relationship are less than the expected benefits from the action (Kankanhalli *et al.*, 2005). SPT extends SET to further explain that individuals participate in self-disclosure to foster relationships, reciprocation being the foundational benefit of self-disclosure while risk is the foundational cost of self-disclosure. To complete this model, we also included social influence to use an online community and cultural factors, both of which affect self-disclosure. The remainder of this section summarizes additional results arising from testing our model, per the research questions that drove this study.

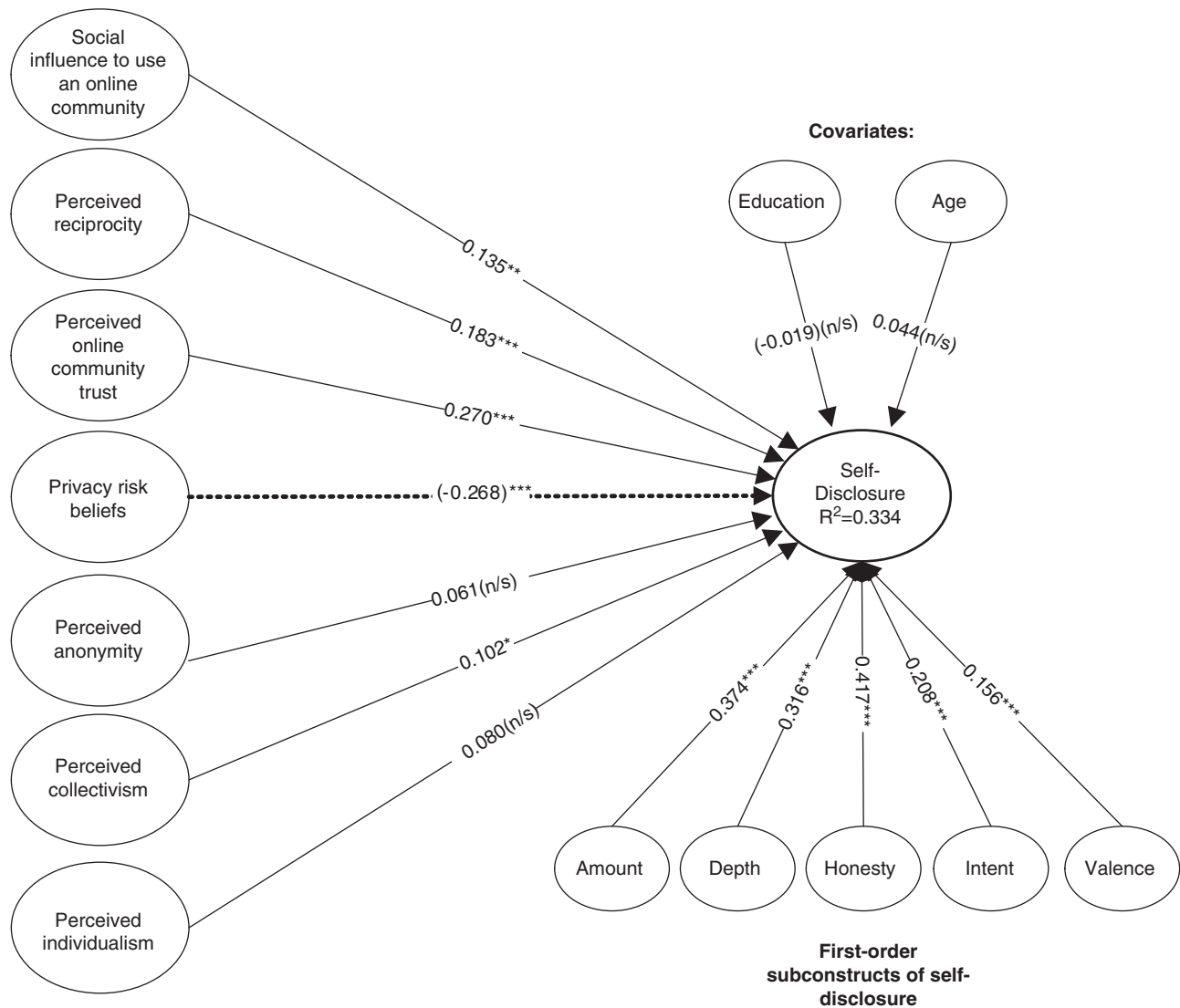


Figure 4 Model testing results.

RQ1. Factors predicting self-disclosure

Our study confirmed several important hypotheses related to our theoretical model of online self-disclosure. In our data sample, social influence to use an online community increases online community self-disclosure (H1). The primary self-disclosure benefit of reciprocity also increases self-disclosure (H2). Meanwhile, two risk factors in our model have an additional effect: online community trust increases self-disclosure (H3), whereas privacy risk beliefs decrease self-disclosure (H4). However, the risk factor of anonymity – in terms of lack of identification – had no impact on self-disclosure (H5).

RQ2. Individual-level and National-level cultural influences

In terms of individual-level cultural differences, we found that a tendency toward collectivism increases

self-disclosure (H6). A tendency toward individualism had no impact on self-disclosure (H7). The primary theoretical basis for this tie to our model is that a key factor and benefit in self-disclosure is reciprocity. Meanwhile, the tendency toward reciprocal behavior and communication and relationships is much higher in collectivists; thus, they are more prone to self-disclose than individualists.

We further found that there were no statistical differences in individualism or collectivism on the national levels of France or the U.K. However, we did find that French participants had higher scores on horizontal individualism than British participants. Notably, the horizontal individualism scale has been associated with people who are sociable, have high family integrity, have high interdependence on others, yet are highly competitive and highly self-reliant (Triandis & Gelfand, 1998).

Table 2 Summary of path coefficients and significance levels

Tested path	Path coefficient (β)	t-value (df= 529)
<i>Hypotheses</i>		
H1. Social influence to use an online community \rightarrow self-disclosure	0.135	2.83**
H2. Reciprocity \rightarrow self-disclosure	0.183	4.16***
H3. Online community trust \rightarrow self-disclosure	0.270	4.07***
H4. Privacy risk beliefs \rightarrow (-) self-disclosure	(-0.268)	5.03***
H5. Anonymity \rightarrow self-disclosure	0.061	1.41 (n/s)
H6. Collectivism \rightarrow self-disclosure	0.102	2.35*
H7. Individualism \rightarrow (-) self-disclosure	0.080	1.79 (n/s)
<i>Covariates</i>		
Education \rightarrow self-disclosure	(-0.019)	0.52 (n/s)
Age \rightarrow self-disclosure	(0.044)	1.05 (n/s)
<i>Confirmation of second-order factor of self-disclosure</i>		
Amount is a first-order subconstruct of self-disclosure	0.374	10.95***
Depth is a first-order subconstruct of self-disclosure	0.316	12.00***
Honesty is a first-order subconstruct of self-disclosure	0.417	11.47***
Intent is a first-order subconstruct of self-disclosure	0.208	7.70***
Valence is a first-order subconstruct of self-disclosure	0.156	5.81***

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

Table 3 Summary of France vs U.K. models

Tested path	France model		U.K. model		Statistical difference in comparing the paths
	Path coefficient (β)	t-value (df= 263)	Path coefficient (β)	t-value (df= 266)	
<i>Hypotheses</i>					
H1. Social influence to use an online community \rightarrow self-disclosure	0.232	2.84**	0.128	1.46 (n/s)	No
H2. Reciprocity \rightarrow self-disclosure	0.187	2.68**	0.158	1.87 (n/s)	No
H3. Online community trust \rightarrow self-disclosure	0.256	1.93 (n/s)	0.182	1.98*	No
H4. Privacy risk beliefs \rightarrow (-) self-disclosure	(-0.268)	1.93 (n/s)	(-0.289)	3.47**	No
H5. Anonymity \rightarrow self-disclosure	0.044	0.67 (n/s)	0.081	1.23 (n/s)	No
H6. Collectivism \rightarrow self-disclosure	0.052	0.44 (n/s)	0.187	2.40*	No
H7. Individualism \rightarrow (-) self-disclosure	(-0.090)	0.63 (n/s)	0.166	1.75 (n/s)	No

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$.

British participants also exhibited higher self-disclosure rates than French participants; however, this is potentially misleading, as there were stark differences in the underlying subdimensions of self-disclosure. In our study, British participants had higher scores on amount and valence, whereas French participants had higher scores on honesty and intent. No other statistical differences were seen between the countries' IVs. As noted in our demographic analysis, more of the U.K. participants were frequently involved in online community use than the French participants, which could also account for some of these differences. In our demographic data, we found that despite having virtually the same Internet experience, 55.9% of British participants used advanced privacy settings when using their online communities; this was true for only 27% of the French participants.

Finally, we ran separate path models for each country to see if there were any differences between them. We found in the French model that social influence to use an online community and reciprocity had the highest influence on self-disclosure; in the British model, online community trust and privacy risk beliefs had the highest influence on self-disclosure. These differences suggest that there could be highly salient differences between the French and British samples affecting the kinds of self-disclosure, as well as differences in the factors that affect self-disclosure.

Limitations and future research

A limitation of this study is that there is more to the broader concept of anonymity than lack of personal identification; other factors can include

diffused responsibility, proximity, confidence in the system being used and knowledge of others using the system (Pinsonneault & Heppel, 1998). The common thread between these factors is that they foster disinhibition (Pinsonneault & Heppel, 1998). Hence, it is possible that while lack of identification does not foster self-disclosure, there could be other elements of anonymity that foster disinhibition and thus encourage self-disclosure. Related to anonymity, there is also the potential issue of people acting in deceptive and malicious manners in order to manipulate or confuse an online community. Future research should further address these gaps.

Our preliminary results suggest that the French participants are much more socially influenced and social benefits-oriented than the British participants, who are more concerned about self-disclosure risk factors. Interestingly, a separate recent study showed that the French are more than twice as likely to read and write blogs than the British; blogs can also involve intimate forms of self-disclosure (Bernoff & Li, 2008). Furthermore, in our study, French participants scored higher on the horizontal-individualism scale. However, we cannot definitively conclude that these differences alone can theoretically account for the differences in these two national cultures. More theory and research need to be developed to examine other factors. For example, another potential cultural indicator that may prove beneficial in this regard is that of uncertainty avoidance, which is highly related to risk privacy beliefs. Perhaps the most exciting potential individual-cultural and cross-cultural research that can be done is to look at design factors that can better influence participants of different cultural inclinations to self-disclose online.

Another opportunity is figuring out how to foster collectivism. Preliminary research shows that although individualism and collectivism are cultural dimensions of one's likely behavior, everyone has some degree of both factors, and these can be manipulated in an organizational setting to enhance the collectivistic tendencies of workers (Triandis & Gelfand, 1998). Hence, we believe that this is also possible in an online community setting. The key would be to provide rewards for collectivistic supportive behavior, because such behavior encourages not only one's own self-disclosures but also the self-disclosures of others. Rewards could include an increase in public 'authenticity/honesty' and 'helpfulness' measures, which could rate users on these items based on evaluations of their self-disclosures.

Other limitations and research opportunities are that our data represented a 'snapshot' of one point in time, and we did not have direct access to participants' actual self-disclosure on the social network to gauge the veracity of their responses related to their self-disclosure. Our method of data collection through Zoomerang insured our respondents' complete privacy, and their actual

identities were not revealed. We did not observe the process of social penetration itself, which can be accomplished by conducting longitudinal studies (VanLear, 1987, 1991). Further, there are other potential elements of SPT that could be studied – including satisfaction, stability and security in a relationship – to predict self-disclosure. However, these are trickier to study because researchers would have to look at particular dyadic relationships in a larger online community.

Finally, while this research assumes that self-disclosure is somewhat of an unqualified 'good' for building an online community, facilitating market research, and promoting business through the 'contribution revolution', it is important to emphasize that the latter two points have ethical considerations that need further examination. Clearly, marketing and business uses of self-disclosure can cross ethical guidelines and violate privacy and what is right and wrong in this regard may differ by culture and country.

Application to research and practice

Our model and results indicate that privacy risk beliefs inhibit self-disclosure within online communities, and it appears that this inhibition is stronger in British participants than in French participants. There may be several alternative explanations for these results, including different information laws between the countries and different identification requirements when opening accounts or establishing membership in social networks, identity theft awareness programs, security education programs, the type and quality of government-issued identity documents and legal penalties for violating information laws. Therefore, such considerations may need to be localized to various national versions of online community Web sites. Naturally, those who worry about privacy do not want to reveal their information online. From a community-engagement perspective, it is critical to encourage participants to self-disclose in these communities so that they will build the relationships necessary for a satisfying experience and continuance with the communities. Non-disclosers are also particularly troublesome to marketers who need accurate information about target customers. We believe that less intrusive designs can lead people to shed additional layers of their personal 'onions', on the basis that lower levels of self-disclosure will lead to higher levels over time, as supported by the literature.

The anonymity results are particularly interesting and important. Recall that anonymity helps limit evaluation apprehension and other factors that inhibit people from sharing information with others, and thus increases disinhibition. One might intuitively conclude that anonymity should foster more self-disclosure, but this was not the case in our study. We think this result can be better explained by looking at the subdimensions of self-disclosure (*amount, depth, honesty, valence and intent*), which reveal an underlying tension with anonymity. Whereas amount could be positively affected by not

identifying oneself because one may be less inhibited, we realize that anonymity could be completely counter to the notions of honesty and depth. We believe that anonymity could be counter to the need for intimacy, openness and honesty, which is the essence of self-disclosure.

By understanding what fosters online self-disclosure in online communities of different cultural dimensions, sites can be better designed to improve relationship building and trust formation and to encourage self-disclosures that bring positive benefits to the participants and to businesses. Designers and researchers should first look at manipulating the salient factors that we found have a strong impact on online-community self-disclosure: social influence to use an online community, reciprocity, online community trust, privacy

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risk beliefs, collectivism and horizontal-individualism. For example, providing active moderators or online activists in a professional community could be a positive factor for social influence to use an online community. Implementing and studying these and other factors affecting online self-disclosure will lead to more understanding of the nuances of online communities. This understanding becomes increasingly important as these communities continue to grow and become a salient part of modern social culture.

Acknowledgements

We acknowledge funding provided by Louisiana Tech University and Brigham Young University to support this study. Finally, we appreciate reviews and edits by Jeffrey L. Jenkins, Kevin Brinkerhoff, Laura Rawlins and David Wilson.

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Supplementary information accompanies the paper on European Journal of Information Systems website (www.palgrave-journals.com/ejis/).