

The moderating role of culture in social media-based spatial imagery, consumer xenocentrism, and word-of-mouth for global virtual teams

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Abstract:

This study investigates how culture moderates the interrelationships among social spatial imagery (SSI), consumer xenocentrism (C-XEN), electronic word-of-mouth (eWoM), and overall project performance for global virtual teams (GVTs) in social media networked environments. In a sample of 1240 participants from developed economies (the United States and Italy) versus 1176 from emerging economies (China, India, Colombia, Brazil, and Malaysia), partial least squares structural equation modeling and multigroup analyses were conducted to examine the above social media-based interrelationships. The results indicate that low power distance (PD), individualist, and masculine cultures exert strong and positive relationships between C-XEN and negative eWoM; while high PD, collectivist, and less masculine (or feminine) cultures strengthen positive relationships between xenocentrism and positive eWoM. Further, negative eWoM aids project success for GVTs, while positive eWoM has no impact on project performance for developed and emerging economies. Theoretical and managerial implications for understanding cross-cultural aspects of SSI, C-XEN, eWoM, and GVT project performance in online social networks are discussed.

Keywords: culture | doppelgänger effect | global virtual teams | interpersonal closeness | social media | social spatial imagery | word-of-mouth | xenocentrism

Article:

Introduction

The advent of social media and social collaboration platforms, such as Instagram, Snapchat, Facebook, Twitter, Skype, or WhatsApp, has contributed to increased social interactions around the globe. These platforms have also contributed to easy transfer of information and media files resulting in rapid increase of global collaboration among online communities of interest targeting specific consumers, firms, brands, or products (Carlson et al., 2019; Culnan et al., 2010; Tellis et al., 2019). Social networks have emerged not just as means of communication, but also as new channels for collaboration and innovation, as tools for community engagement, as ways to recruit skillful employees, and as means to develop new innovative ideas among culturally

diverse, global virtual teams (GVTs) within and outside organizations (Moore and Kearsley, 2011; Nisar et al., 2019; Yan et al., 2019). Organizations utilize digital and social media-based innovations in the workplace that is increasingly becoming virtual, global, and cross-cultural leading to the formation of GVTs (Jimenez et al., 2017).

GVTs are defined as globally dispersed and culturally diverse work groups in organizations that operate in technology-mediated (generally, electronic and social media supported) environments representing varied cultures, languages, and nuanced by communication complexities leading to achievement or relinquishment of desired and shared goals (Jimenez et al., 2017; Mattarelli et al., 2017; Rice-Bailey, 2014; Tenzer et al., 2014; Wageman et al., 2012). For example, in 2007, IBM created Beehive, an internal social network to connect GVTs, comprising of thousands of employees worldwide. This proved beneficial to GVTs at IBM. First, IBM employees connected with other employees worldwide through Beehive based on their shared feelings of closeness and connectedness while working on interdepartmental or interdivisional GVT projects, sharing areas of expertise, and getting-to-know more about other employees who came from different countries and world cultures. These socially networked 30,000 IBM employees uploaded their bios, posted their official and family pictures, and grouped their Beehive connections as “friends,” “experts,” “mentors,” “influencers,” “close connections,” “not-so-close connections,” and so on. Second, IBM employees started collaborating more openly with their colleagues on Beehive (internal social media), promoting their projects to other cross-cultural GVT teams worldwide to gain support, brainstorm, and gather ideas for successful project completion. Third, IBM employees connected with people at different organizational levels through Beehive (especially those who were not easily accessible through traditional day-to-day communication channels) and sought career advice and job enhancement opportunities.

National culture plays an important role in international marketing, social media, GVTs, e-commerce, new product development, online branding, and customer relationship management (Carlson et al., 2019; Dutton and Reisdorf, 2019; Griffith et al., 2014; Pick and Eisend, 2016; Tang, 2017; Tellis et al., 2019). GVTs work on different projects across social media-enabled environments. Technology may be perceived as the biggest determinant of GVT project outcomes, but cross-cultural differences among GVT members have been shown to matter a great deal, too (Dutton and Reisdorf, 2019; Tang, 2017). Consumers worldwide trust information from social media through online expert opinions and peer-to-peer reviews, also called electronic word-of-mouth (eWoM), which are deemed important for their purchase decisions in both offline and online environments (Griffith et al., 2014; Tang, 2017).

Majority of extant eWoM research has focused on US websites or on websites from a single country (Tang, 2017), while cross-cultural differences should engage “at least two or more cultures across single or multiple online communities” (Gallagher and Savage, 2013). It is unclear whether some or any uniform social media-based factors and determinants have been examined as online marketing tools for investigating cross-cultural comparisons in GVTs (Tang, 2017). Extant eWoM research (Babić Rosario et al., 2016; Dutton and Reisdorf, 2019; Floyd et al., 2014; Tang, 2017; You et al., 2015) has shown that online consumer reviews or eWoM positively impact product sales. However, the moderating role of national culture on the relationships between eWoM and overall project performance in the context of GVTs and social media in international markets has been largely unexplored. Our research aims to fulfil this

major gap of determining how to effectively leverage eWoM for global and cross-cultural business teams spanning beyond national boundaries in social media environments.

Our research makes several contributions. First, we propose social spatial imagery (SSI) as a combination of interpersonal closeness (IC) exemplified by closeness, connectedness, knowledge, and expertise, in addition to consumer doppelgänger effect illustrated by GVT users following their role models and social influencers in online social networks. International business and marketing researchers (Bagozzi and Dholakia, 2002; Dekker et al., 2008; Dholakia et al., 2004; Jimenez et al., 2017; Mattarelli et al., 2017; Rice-Bailey, 2014; Tenzer et al., 2014; Wageman et al., 2012) have focused on challenges facing culturally diverse GVTs such as technical issues, social and psychological factors, cultural/language issues, roles and responsibilities, budget and timeline constraints, and nature and role of social influences exerted by GVT members (Dholakia et al., 2004; Postmes et al., 2000). However, little attention has been paid to spatial presence in mediated environments (e.g. social media) and mental imagery (Weibel et al., 2011), which is referred to “social spatial imagery” in our research. Second, we demonstrate how consumer xenocentric tendencies influence the relationship between SSI and eWoM along with project success/failure while working in GVTs. Xenocentrism means favoritism toward foreigners or out-groups coupled with negative stereotypical perceptions of one’s own culture or in-group (Balabanis and Diamantopoulos, 2016: 60). We provide evidence that GVT users with stronger (vs. weaker) tie strengths and higher (vs. lower) levels of SSI will have more positive (vs. negative) attitudes toward foreigners or positive (vs. negative) xenocentrism, which will help them share more negative (vs. positive) eWoM across GVTs, thus impacting the overall performance of GVT projects through early or mid-term project corrections, modifications, and final outcomes. Finally, we focus on cross-cultural differences in GVTs with the moderating effects of culture in the relationships among SSI, consumer xenocentrism (C-XEN), and eWoM. The research provides evidence that GVTs that share more negative eWoM about projects over positive eWoM are more likely to have successful project outcomes in social media-based projects.

The following sections elaborate on SSI through C-XEN and eWoM in the context of GVTs. We focus on how SSI activates distinct psychological motives in GVTs that lead to positive or negative xenocentrism, which further increases eWoM sharing in online social networks. We present a sample of 1240 GVT participants from developed countries (e.g. the United States and Italy) versus 1176 GVT participants from emerging economies (e.g. China, India, Colombia, Brazil, and Malaysia); and analyze relationships between SSI and eWoM with “xenocentrism” acting as a “mediator” and “culture” acting as a “moderator” in social media networked environments. Finally, we present discussions and implications of our findings.

Theoretical background

Conceptualizing SSI in GVTs

Mental imagery is defined as quasiperceptual experience without any physical stimulus (Weibel et al., 2011), and this imagery is related to the concept of spatial presence. Spatial presence is defined through the concept of telepresence (Heeter, 1992; Steuer, 1992), whereby a user is immersed in mediated environment, where she/he is enjoying and having fun over her/his

physical environment (Lombard and Ditton, 1997; Wirth et al., 2007), such as reading an online book; watching an online movie; playing computer/social media games; and using social networking sites like Facebook, Twitter, Instagram, Snapchat, LinkedIn, Pinterest, and so on to interact with friends, people, and influencer groups (Carlson et al., 2019; Dutton and Reisdorf, 2019; Griffith et al., 2014; Pick and Eisend, 2016; Tang, 2017; Tellis et al., 2019). Companies like Intel, DuPont, Procter & Gamble, Eli Lilly and Company, and many others post problems that are not sufficiently solved by their in-house research teams on company-owned social networked environments and offer rewards ranging from US\$10,000 to US\$100,000 for solving these problems. These companies utilize concepts of telepresence and mental imagery in social media by inviting individual participants on these online social networks where they can form online GVTs with friends, strangers, and influencers (experts) to solve problems in a prespecified time frame to win awards.

Social panorama theory can be utilized while understanding spatial symbolic representations (Carlson et al., 2019; Derks et al., 2014) in the context of GVTs. Team members experience spatial imagery while interacting in social media, which is characterized by creation of spatial representations in mental space (Tversky, 1991, 1993, 1995, 2000a, 2000b), impacting social cognitive behavior. The “relation equals location” approach of social panorama theory helps build relationships with strangers (working in GVTs) in mental space utilizing mental imagery, which are henceforth created in social media space. Spatial and telepresence plays a significant role of converting mental imagery into socially cognitive relationships among GVT members, who started as “strangers” in GVTs. Over period, these GVT members excel in understanding SSI and build behavioral (affective and cognitive) relationships through IC among team members. IC is defined as perceived psychological proximity characterizing social relationships, disclosing and sharing information, social interactions, and tie strength between two people as social dyads (Altman and Taylor, 1973; Bakshy et al., 2012; Carlson et al., 2019; Dibble et al., 2012; Dubois et al., 2016; Gino and Galinsky, 2012; Godes and Mayzlin, 2004; Marsden and Campbell, 1984; Tellis et al., 2019). We argue that spatial imagery in social media can be measured through IC since SSI entails perceived psychological proximity among team members. IC index contains measures of closeness and connectedness, and these measures are superimposed with expertise, knowledgeability, and competence to present a full picture of SSI in social media (Dubois et al., 2016).

In addition to IC, consumer’s doppelgänger effect is added to SSI sphere for comprehending mental imagery, role models’ influence, and mimicry (Ruvio et al., 2013). Marketing and neuroscience researchers have defined “consumer’s doppelgänger effect” as relationships between intentional mimicry of human behavior and human interactions, especially when people mimic others with whom they interact/work with, as activation of mirror neurons in human behaviors (Chartrand and Bargh, 1999; Iacoboni et al., 1999; Ruvio et al., 2013; Tanner et al., 2007). In GVTs, this happens when group leaders and team members inspire and motivate other members in social media networked environments leading to overall project success. In our earlier example of IBM’s Beehive, 30,000 IBM employees (working in different GVTs worldwide) grouped and classified their social media connections as not just friends, but also mentors and social influencers, and created online social circles and spheres (designating IC in social media space). In similar vein, Google+, an online social network owned by Google, uses “circles” to control who one shares posts and information with. A hierarchical representation of

Google+ circles utilizing spatial presence, IC, and consumer's doppelgänger effect is provided in Figure 1. The social media platform allows someone to be added in an individual's circle even if they don't follow the individual, so they'll be able to see posts that the individual shares with that circle. As the individual shares in posts on Google+, she/he has the ability to limit her/his post to a specific circle, many circles, or all circles.

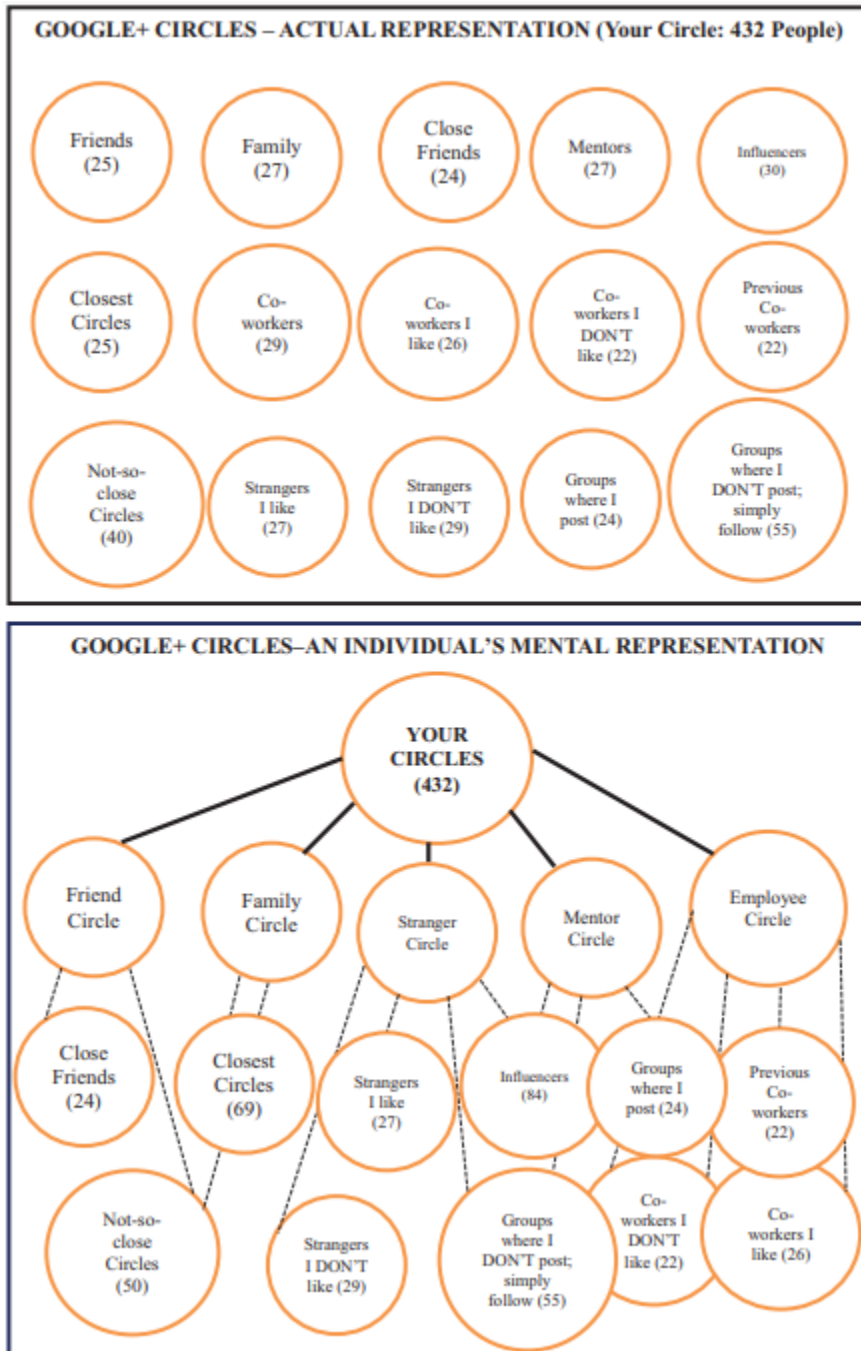


Figure 1. A hierarchical representation of SSI: An example of Google+. SSI: social spatial imagery.

Figure 1 presents actual and mental hierarchical representation of SSI (depicting IC and consumer's doppelgänger effect) in Google+ social networked virtual environments. Utilizing the concepts of mental imagery and telepresence in spatial social media networked environments, we conceptualize "social spatial imagery" as the combination of "spatial psychological presence" and "mental imagery" in social media, whereby human quasisperceptual and behavioral experiences related to presence and enjoyment transform an individual's presence in social media rather than physical world in a way that she/he feels positively immersed in virtual environments. Hence, we define SSI in GVTs as below:

Social spatial imagery is defined as the combination of human quasisperceptual and behavioral experiences that occur through telepresence, interpersonal closeness, and consumer doppelgänger effect in social media and social networked virtual environments. Such behavioral experiences lead to enjoyment in social media space, social media immersion, and success in activities of indulgence in social media technology-mediated environments.

We argue that SSI ignites psychological spatial imagination, IC, and mental simulations of mimicking role model behavior that allows the user's positive immersion (Green et al., 2004; Weibel et al., 2011) in the world of social media. Next, we analyze interrelationships among SSI, xenocentrism, and eWoM under the moderating influence of culture.

SSI and C-XEN

As explained earlier, SSI occurs when social media users store generalized images of others in steady locations in their mental space (Carlson et al., 2019; Derks et al., 2014; Dutton and Reisdorf, 2019), utilizing social panorama theory, and this phenomenon becomes more relevant while working in GVTs across different countries and cultures. Since SSI includes IC and consumer's doppelgänger effect in social media, it is evident that GVT members will experience strong tie strengths with some members and may tend to interact with them more over others in online social environments (Godes and Mayzlin, 2004). These social media-based tie strengths become stronger when users follow others (e.g. role models, social influencers) and tend to mimic their behavior, knowledge, and expertise in online social networks. Ruvio et al. (2013) described this intentional mimicking of other people's consumption behavior as consumer doppelgänger effect. GVT users develop favorable behaviors and attitudes toward some other users due to SSI (a mix of IC and consumer's doppelgänger effect) in social media networked environments. This leads to C-XEN.

Xenocentrism has been defined as "a psychological attribute which implies a biased view...one who is xenocentric sees faults where none exist" (Kent and Burnight, 1951: 256–257). Researchers define C-XEN as favoritism toward foreigners or out-groups coupled with negative stereotypical perceptions of one's own culture or in-group (Balabanis and Diamantopoulos, 2016: 60; Eshleman et al., 1993: 109). Balabanis and Diamantopoulos (2016) used system justification theory to examine the phenomena of in-group derogation (a.k.a. perceived inferiority) and out-group favoritism (a.k.a. social aggrandizement). One dimension of C-XEN is "social aggrandizement" which means out-group favoritism exhibiting preferences for foreigners, people from different countries/cultures, and includes liking for foreign goods as well

(Balabanis and Diamantopoulos, 2016; Bizumic and Duckitt, 2008). The other dimension of C-XEN is “perceived inferiority” which means tendency to negatively self-stereotype, undervalue self or people from same cultures/countries, and non-appreciative of domestic products and brands (Balabanis and Diamantopoulos, 2016; Zhou and Belk, 2004). System justification theory legitimizes social arrangements as a psychological process (Jost, 2011; Jost et al., 2004), whereby members of groups with high SSI (high tie strengths, high IC, and high consumer’s doppelgänger effect) tend to connect strongly with others and show high out-group favoritism and favor other countries, cultures, and people from other countries. In contrast, group members with low social standing exhibit low SSI (low tie strengths, low IC, and low consumer’s doppelgänger effect) and do not connect as strongly with others as high SSI group members, thereby exhibiting low out-group favoritism to other countries, cultures, and people from other countries. On the lines of system justification theory, we argue when users feel close to each other, they find more influencers, doppelgängers, and friends in their social setting, and they tend to become more other-focused and psychologically try to protect others (Carlson et al., 2019; Cross et al., 2000; Dubois et al., 2016), thus exhibiting higher levels of C-XEN. In contrast, when users feel distant from other users psychologically, they tend to be more self-focused and try to protect “self” over others (Argo et al., 2006; Carlson et al., 2019; Cross et al., 2000; Dubois et al., 2016), thus exhibiting lower levels of C-XEN. Thus,

H1a and H1b: Social media users with high levels of IC (a component of SSI) will exhibit high levels of perceived inferiority (hypothesis 1a) and high levels of social aggrandizement (hypothesis 1b).

H1c and H1d: Social media users with high levels of consumer’s doppelgänger effect (a component of SSI) will exhibit high levels of perceived inferiority (hypothesis 1c) and high levels of social aggrandizement (hypothesis 1d).

Please note that perceived inferiority and social aggrandizement are measures of C-XEN.

Xenocentrism, eWoM, and project performance in social media

WoM is defined as “an oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, product, or service” (Arndt, 1967: 66). eWoM (which are generated through peer-to-peer reviews and expert opinions in online social networks) has become one of the most important factors in consumers’ purchasing decision behavior (Carlson et al., 2019; Tang, 2017; Tellis et al., 2019). While examining SSI, we argue that eWoM is one of the critical determinants for understanding consumers’ psychological motives. In our research, we hypothesized earlier that consumers with high C-XEN levels tend to protect others, while consumers with low C-XEN levels tend to protect self over others. Dubois et al. (2016) provided evidence that users with a motive to protect others share more negative information and WoM because negative WoM helps in protecting/warning people about negative experiences about products and services (Duygun, 2015; Hennig-Thurau et al., 2004). In similar vein, Dubois et al. (2016) provided evidence that users with a motive to protect self over others tend to share more positive WoM because it reflects favorably on sender/communicator and such people are perceived as “sharers of positive

news and not bearer of bad news” (Bell, 1978; Berger and Milkman, 2012; Forest and Wood, 2012). Thus,

H2a and H2b: Social media users with high levels of perceived inferiority (a measure of C-XEN) will share negative eWoM (hypothesis 2a) and positive eWoM (hypothesis 2b).

H2c and H2d: Social media users with high levels of social aggrandizement (a measure of C-XEN) will share negative eWoM (hypothesis 2c) and positive eWoM (hypothesis 2d).

GVT project performance in social media

Consumers use social panorama and system justification theories along with psychological motives of enhancing self or protecting others while interacting with other team members in GVTs in social media networked environments. In doing so, they share negative and positive eWoM in online social networks. We argue that when GVT participants share more negative eWoM, it helps and warns other team members ahead of time to create workarounds, anticipate problems/issues right from the project start, solve these problems during all project phases, share more (negative) information to keep solving problems for improvement during all project phases, interact more and longer on social media through eWoM to troubleshoot small/big problems, and ensure project success from start to finish. On the flip side, when GVT participants avoid negative information and focus more on positive eWoM, then team members tend to neglect problems right from the project start and neglect talking about anticipated or future problems that arise during the project phases. This may decrease chances of project success in GVTs. Thus,

H3: Negative eWoM sharing will increase chances of project success in GVTs.

H4: Positive eWoM sharing will increase chances of project success in GVTs.

Moderating role of culture

We extend the thinking of SSI, xenocentrism, and eWoM as international online marketing channels due to cross-country and cross-cultural learning effects (Tang, 2017). Social media plays a vital role of bringing people from different countries and cultures together; yet researchers have overlooked the moderating influence of culture (Arora and Sanni, 2019; Carlson et al., 2019; Dutton and Reisdorf, 2019; Kozinets et al., 2018; Lam et al., 2009; Tang, 2017). Cultural differences influence the nature of social networks (Smith, 2007) and can explain the interrelationships among the constructs of SSI, C-XEN, and eWoM. Also, little is known about how cultural preferences moderate the impact of SSI and eWoM on GVT project performance. Extant research has found that cultural values moderate the cognitive processing of received eWoM in a group/country setting (Schumann et al., 2010). For example, Chinese participants engage more in both negative and positive information-seeking behavior than their American counterparts while exchanging information in electronic discussion boards (Fong and Burton, 2008; Tang, 2017).

Culture is “a complex whole that includes knowledge, belief, art, morals, law, custom and other capabilities and habits acquired by man as a member of society” (Tylor, 1891: 23). Culture may

be defined as “the collective programming of the mind, which distinguishes the members of one human group from another” (Hofstede, 1980: 45). Geert Hofstede’s seminal national cultural research extracted cultural attributes’ data from a large number of employees of IBM between 1967 and 1973 in more than 40 countries, and this work was later expanded to include 68 countries and regions (Hofstede, 2001). Hofstede’s work has been criticized due to a series of quantitative cultural dimensions vis-à-vis the operationalization of culture using qualitative techniques (McSweeney, 2002). The other criticisms deal with insufficient cultural dimensions, IBM centric nature of data, and generalizability of results (Javidan et al., 2006; Schwartz and Bilsky, 1990). The Global Leadership and Organizational Behavior Effectiveness (GLOBE) Research Program was designed to expand on Hofstede’s (1980) work. GLOBE defined “culture” as: “shared motives, values, beliefs, identities, and interpretations or meanings of significant events that result from common experiences of members of collectives that are transmitted across generations” (House et al., 2004: 15). GLOBE study measured two distinct facets of national culture—cultural practices and values—for each of its nine dimensions. Both Hofstede and GLOBE have their own advantages and disadvantages; however, one of the best applications of Hofstede’s research is the utilization of national culture scores from Hofstede (1980) to compute national cultural distance (Kogut and Singh, 1988). Hofstede’s 68 countries’ culture scores can be obtained from www.hofstede-insights.com/product/compare-countries, while GLOBE’s 62 countries’ culture scores are compiled from House et al. (2004). Despite all criticisms, Hofstede’s work remains the most cited, dominant model for national, cross-cultural research in global marketing and international business management (Samaha et al., 2014).

In the current research, we utilized cultural dimensions from Hofstede (1980, 2001) to measure cultural differences for social media-enabled GVTs across developed and emerging economies. Researchers (Pick and Eisend, 2016; Tang, 2017; Van Hoorn, 2015; Yoo et al., 2011) have noted that Hofstede’s cultural indices are better than the ones provided by Kluckhohn and Strodtbeck (1961), Trompenaars (1993), and Schwartz (1994). We adopt Hofstede’s (2001) four national cultural dimensions—power distance (PD), uncertainty avoidance (UA), masculinity/femininity, and individualism/collectivism—which have strong relationships to marketing strategy (Arora and Sanni, 2019; Erramilli and Rao, 1993; Johnson and Tellis, 2008; Samaha et al., 2014; Tang, 2017) and been used in prior cross-cultural WoM and eWoM research (e.g. Dawar et al., 1996; Lam et al., 2009; Schumann et al., 2010; Tang, 2017). PD is a measure of interpersonal power and influence and reflects the way a culture handles inequality (Hofstede, 2001). There is a limited research available on analyzing the impact of PD on eWoM in social media. Dawar et al. (1996) argue that people in high PD cultures accept authorities (even if they don’t trust them). In contrast, people in low PD cultures adopt more equal distribution of prestige, power, and wealth. Tang (2017) argued that consumers in high PD cultures are more acceptable to negative eWoM for making purchase decisions (Liao et al., 2015). He further noted that PD, a cultural Hofstede’s dimension of measuring unequal distribution of power, status, wealth, and prestige in society and gaining others’ respect, often results in making consumer purchasing decisions. Consumers expressing negative reviews about products’ high pricing motivate other consumers make purchasing decisions in high PD cultures over low PD cultures. Thus,

H5: PD has a positive effect on the relationship between xenocentrism and eWoM, which further leads to GVT project success outcome.

Regarding UA, high UA cultures seek assurance from WoM sharing and are more prone to negative WoM to reduce ambiguity over low UA cultures (Dawar and Parker, 1994; Tang, 2017). There is mixed research evidence available for UA and consumer purchase decisions through positive and negative eWoM (Tang, 2017). However, Schumann et al. (2010) demonstrated that high UA cultures exhibit information-seeking behaviors and share more negative eWoM to reduce any uncertainty and ambiguity while making purchase decisions over low UA cultures. Assertiveness, performance, competitiveness, materialism, and achievement are highly valued in masculine societies. Cultures high in masculinity vis-à-vis femininity are characterized by a stronger ego orientation, materialism, and competitiveness (Hofstede, 2001). Researchers have observed higher levels of information sharing as well as information acquisition activities in masculine cultures (Dwyer et al., 2005; Lam et al., 2009; Liu et al., 2001). Therefore,

H6: UA has a positive effect on the relationship between xenocentrism and eWoM, which further leads to GVT project success outcome.

H7: Masculinity has a positive effect on the relationship between xenocentrism and eWoM, which further leads to GVT project success outcome.

Similarly, there are contradicting findings when it comes to studying moderating effects of individualism versus collectivism on information acquisition behavior and WoM (Schumann et al., 2010). Some researchers argued that individualists engage in more information acquisition behavior but did not find empirical evidence (e.g. Dawar et al., 1996). Several other researchers found evidence that collectivist cultures share more pronounced information due to stronger social ties and more cohesiveness than individualist cultures (e.g. Dwyer et al., 2005; Fong and Burton, 2008; Liu et al., 2001; Money et al., 1998; Schumann et al., 2010). Nevertheless, we argue that negative eWoM sharing happens when propensity to trust among individuals is higher. Van Hoorn (2015), Tang (2017), Yamagishi et al. (1998), Huff and Kelley (2003), and Allik and Realo (2004) have provided evidence that individualist cultures (e.g. the United States) exhibit higher propensity to trust than collectivistic cultures. Additionally, Tang (2017) noted that positive WoM reviews occur when individualist cultures evaluate products from a superior country-of-origin compared to their own/competition. With high trust in GVTs, we argue that GVT members from individualist cultures are open to sharing both positive and negative eWoM, resulting in likely increase in project success outcomes. Thus,

H8: Individualism has a positive effect on the relationship between xenocentrism and eWoM, which further leads to GVT project success outcome.

Figure 2 exemplifies relationships among the constructs of SSI, xenocentrism, and eWoM, leading to social media-based project (success or failure) outcomes along with the moderating effect of culture in social media networked environments, as described in hypotheses 1–8. Table 1 illustrates key concepts used in our research along with definitions, theories utilized, measurement scales, and sources/references.

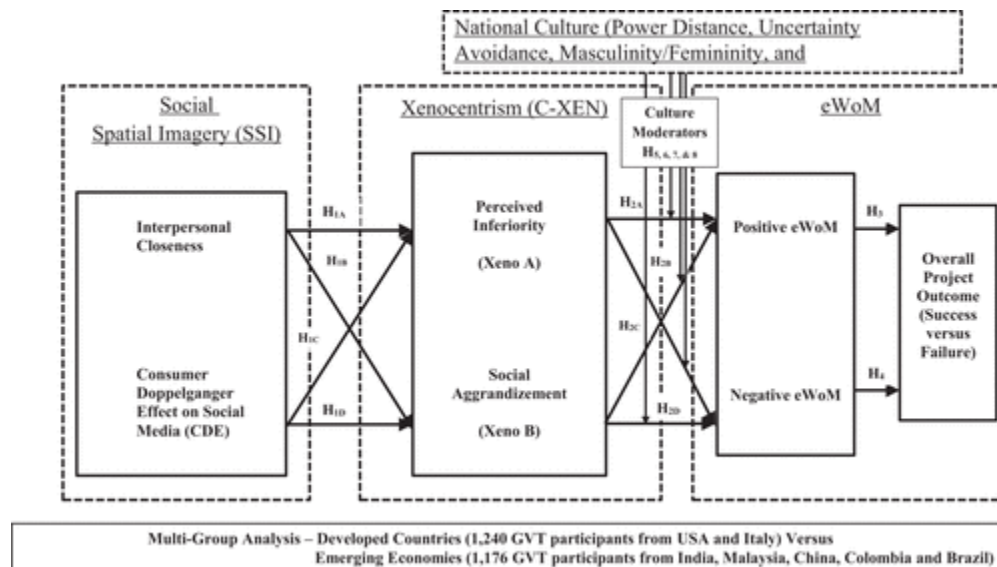


Figure 2. A relational view of SSI—xenocentrism—WoM-based project outcome framework. SSI: social spatial imagery; WoM: word-of-mouth.

Methodology

To empirically test our conceptual framework (Figure 2), we employed partial least squares (PLS) methodology. Data were collected from participants of X-Culture project using a survey questionnaire. In subsequent sections, measures used in the framework, details of X-Culture project and data collection process, and data analysis are discussed.

Measures

The questionnaire consisted of measures from existing literature that were adapted to this study. Eleven latent variables including four national culture moderators have been utilized in our research. Table 1 provides definitions of key constructs, theories utilized, and construct measures and scales used along with sources/references.

Data collection

In order to collect the data, X-Culture project was used. *X-Culture* (www.X-Culture.org) is a large-scale international business collaboration and consulting project headquartered at University of North Carolina, Greensboro, USA. About 800 GVTs consisting approximately 4000 MBA, EMBA, and undergraduate business students and working professionals from all six continents participate in the project each semester. Working in GVTs where each member is from a different country, the project participants rely on technology, virtual communication, social media, and eWoM platforms (e.g. WhatsApp, Facebook, Twitter, Snapchat, Google Hangouts, Skype, Google Docs, etc.) and operate similar to their corporate counterparts. Our sample consisted of a mean of 7.1 members per team and a mean of 5.2 countries represented per team. The project duration was around 4 months, including pre-project training and post-project presentations, and a lengthy period of 8–9 weeks when the team members interacted almost daily working on the project. About half (41 percent) of the participants were MBA and EMBA

students, and the rest were business students in their last or second to last (senior or junior) year of studies. The average age was 23.9 years and 42.5 percent were male. The vast majority of the participants had at least some work experience (average of 3.2 years), and many (31.1 percent) were employed at the time of the project. Some even ran their own businesses or held managerial positions (5.1 percent). The teams submitted weekly deliverables and all project participants completed weekly progress surveys. The average response rate was 97.2 percent, resulting in a sample size of 2416 usable surveys. The weekly surveys allowed us to monitor team dynamics and performance, as well as collect peer evaluations on a regular basis. Each survey included a set of items used to measure the various attitudes and values of the project participants, such as IC, consumer doppelgänger effect, xenocentrism, cultural values, eWoM, and the like.

Admittedly, the present sample is comprised of mostly students and certain concerns about the generalizability of the findings to corporate employees exist. However, the threat to validity and generalizability of the findings is likely minimal. The concern is that students differ too much in demographics, particularly age, compared to corporate workers. However, the fact that students are typically younger than their corporate counterparts is of little concern if the maturation effect does not influence the effects studied. For example, in the case of the present study, there is no reason to believe that dispersion across time zones or cultural value or technical skills' differences would manifest themselves differently in samples comprised of younger versus more mature people. Furthermore, the work design and other aspects of the task were no different than what would be seen in "real" corporate teams. The diversity and intermember distances were real. The team members were dispersed across geographies and time zones, came from different cultures, and had different native languages.

As in the corporate world, the teams faced significant autonomy in terms of extent and type of communication methods, but all teams were introduced to and encouraged to use common business collaboration tools, such as e-mail, voice and video conferencing (e.g. Skype), document and collaboration platforms (e.g. Google Docs and Dropbox), and project management platforms (such as Slack, Trello, and Basecamp). Importantly, students felt pressure to deliver. First, on average, the project accounted for 35 percent of the course grade. A failure on the project typically meant a failure in the course, with all resulting negative effects on future career prospects. Additional "performance bonus awards" meant that members of the best teams were invited, and some received additional financial support, to participate in a project symposium held once a year in the United States. Some organizations in the X-Culture project also offered post-market commissions, as well as prospects of internships and job offers. So the stakes and motivation were high and closer to those in corporate project teams, rather than a typical symbolic bonus that professors offer to their students for participating in a study. All survey participants were current or soon-to-be organizational employees, probably somewhat younger but not different from the business workforce in practically significant ways.

To conclude, the participants, the project settings, and the intermember differences were real, and the work design was closely reminiscent of real consulting projects. Therefore, the threat that the findings of the present study would not generalize to the corporate employee population is minimal.

Table 1. Definitions of key concepts and measures used in the current research.

Concept	Definition	Sources
SSI	<p>SSI is defined as the combination of human quasiperceptual and behavioral experiences that occur through telepresence, IC, and CDE in social media and social networked virtual environments.</p> <p>Theory utilized: Social Panorama Theory</p> <p>SSI is expressed as a combination of IC and CDE.</p> <ul style="list-style-type: none"> • IC is defined as perceived psychological proximity characterizing social relationships, disclosing and sharing information, social interactions, and tie strength between two people as social dyads. • CDE is defined as relationships between intentional mimicry of human behavior and human interactions, especially when people mimic others with whom they interact/work with, as activation of mirror neurons in human behaviors (e.g. people form Google+ circles of friends, family, influencers, role models, and strangers). <p>Measures for SSI (adapted from Dubois et al., 2016; Ruvio et al. 2013):</p> <ol style="list-style-type: none"> 1. How close (or friendly) do you think you're to this person (X) from different country/culture? 2. How connected do you think you're to this person (X) from different country/culture? 3. Do you think that this person (X) is knowledgeable about the use of social media for class projects? 4. When the person (X) from different country/culture makes suggestions to the project, how much are you influenced by their opinions on your project? 5. Do you consider this person (X) from different country/culture as a role model when it comes to taking decisions on key components/strategies on your project? 	<p>IC and tie strength: Granovetter (1973), Altman and Taylor (1973), Marsden and Campbell (1984), Brown and Reingen (1987), Godes and Mayzlin (2004), Gino and Galinsky (2012), Dibble et al. (2012), Bakshy et al. (2012), and Dubois et al. (2016)</p> <p>Social Panorama Theory: Tversky (1991, 1993, 1995) and Derks et al. (2014)</p> <p>CDE: Chartrand and Bargh (1999), Tanner et al. (2007), Iacoboni et al. (1999), and Ruvio et al. (2013)</p>
C-XEN	<p>Xenocentrism has been defined as “a psychological attribute which implies a biased view ... one who is xenocentric sees faults where none exist” (Kent and Burnight, 1951: 256–57).</p> <p>Theory utilized: System Justification Theory</p> <p>Measures for C-XEN (Adapted from Balabanis and Diamantopoulos, 2016):</p> <ol style="list-style-type: none"> 1. I trust more foreign than domestic companies, because they are more experiences and have more resources. 2. In most product categories, foreign brands outperform domestic ones. 3. I trust foreign products more than the domestic ones. 4. Just like products, I feel foreigners (like the person X) are trustworthy because they have traveled the world more than us. 5. Using foreign products enhances myself esteem. 6. I prefer foreign to domestic brands as most of my acquaintances and friends buy foreign brands. 7. I purchase foreign brands to differentiate myself from others. 	<p>C-XEN: Balabanis and Diamantopoulos (2016), Eshleman et al. (1993), Bizumic and Duckitt (2008), and Zhou and Belk (2004)</p> <p>System Justification Theory: Jost et al. (2004)</p>

Concept	Definition	Sources
GVTs	<p>8. Just like products, having more foreign friends and acquaintances on FB (like the person X) makes me look popular and trendier and this enhances my self esteem.</p> <p>GVTs are globally and culturally dispersed work groups in organizations that operate in technology-mediated (generally, electronic and social media supported) environments representing varied cultures, languages, and nuanced by communication complexities leading to achievement or relinquishment of desired and shared goals.</p> <p>International business and marketing researchers have focused on challenges facing culturally diverse GVTs such as technical issues, social and psychological factors, cultural/language issues, roles and responsibilities, budget and timeline constraints, to name a few.</p> <p>Measures for GVTs: X-Culture Project from University of North Carolina at Greensboro, NC, USA—representing GVTs</p> <ul style="list-style-type: none"> • X-Culture project was used to collect the data. <i>X-Culture</i> (www.X-Culture.org) is a large-scale international business collaboration and consulting project. 	<p>Wageman et al. (2012), Rice-Bailey (2014), Tenzer et al., 2014, Mattarelli et al. (2017), Jimenez et al. (2017), Postmes et al. (2000), Bagozzi and Dholakia (2002), Alon et al. (2004), Dholakia et al. (2004) and Dekker et al. (2008)</p>
eWoM	<p>WoM is defined as “an oral, person-to-person communication between a receiver and a communicator whom the receiver perceives as non-commercial, regarding a brand, product, or service.” Electronic WoM or eWoM (peer-to-peer reviews and expert opinions in online social networks) has become one of the most important factors in consumers’ purchasing decision behavior.</p> <p>Users with a motive to protect others share more negative information and WoM because negative WoM helps in protecting/warning people about negative experiences about products and services. Similarly, users with a motive to protect self over others tend to share more positive WoM because it reflects favorably on sender/communicator and such people are perceived as “sharers of positive news and not bearer of bad news.”</p> <p>Measures for eWoM (adapted from Tang, 2017):</p> <ol style="list-style-type: none"> 1. How comfortable are you about sharing any negative information (about the project or some person(s) on your team) with this person (X) from different country/culture? 2. How comfortable are you about sharing any positive information (about the project or some person(s) on your team) with this person (X) from different country/culture? 	<p>Arndt (1967: 66), Tang (2017), Dubois et al. (2016), Hennig-Thurau et al. (2004), Berger and Milkman (2012), Bell (1978), and Forest and Wood (2012)</p>
National culture	<p>Culture is “a complex whole that includes knowledge, belief, art, morals, law, custom and other capabilities and habits acquired by man as a member of society.”</p> <p>Culture may be defined as “the collective programming of the mind, which distinguishes the members of one human group from another.”</p> <p>Culture and Social Media</p> <p>Social media plays a vital role of bringing people from different countries and cultures together; yet researchers have overlooked the moderating influence of culture. Cultural differences influence the nature of social networks and can explain the interrelationships between SSI and WoM. Cultural values moderate the cognitive processing of received WoM in a group/country setting.</p>	<p>Taylor (1891: 23), Hofstede (1980: 45), House et al. (2004), Hofstede (2001), Smith (2007), Lam et al. (2009), Schumann et al. (2010), Yoo et al. (2011), and Tang (2017)</p>

Concept	Definition	Sources
	<p>Measures for eWoM (adapted from Tang, 2017; Hofstede, 2001; Yoo et al., 2011):</p> <ol style="list-style-type: none"> 1. People in higher positions should make most decisions without consulting people in lower positions. 2. People in higher positions should not ask the opinions of people in lower positions too frequently. 3. People in higher positions should avoid social interaction with people in lower positions. 4. It is important to have instructions spelled out in detail so that I always know what I'm expected to do. 5. It is important to closely follow instructions and procedures. 6. Rules and regulations are important because they inform me of what is expected of me. 7. It is more important for men to have a professional career than it is for women. 8. Men usually solve problems with logical analysis; women usually solve problems with intuition. 9. Solving difficult problems usually requires an active, forcible approach, which is typical of men. 10. There are some jobs that a man can always do better than a woman. 11. Group success is more important than individual success. 12. Individuals should only pursue their goals after considering the welfare of the group. 	

Note: SSI: social spatial imagery; IC: interpersonal closeness; CDE: consumer doppelgänger effect; C-XEN: consumer xenocentrism; FB: Facebook; GVT: global virtual team; eWoM: electronic word-of-mouth.

Testing for common method bias

To reduce common method bias (Podsakoff and Organ, 1986), items pertaining to independent variables preceded the dependent variables measurement items. Furthermore, Harman's one-factor test was used post hoc to examine the extent of the potential bias. After all items were entered into the factor analysis model, the first factor accounted for only 30.8 percent of the total variance. In addition, no general factor emerged from the factor analysis to account for majority of the covariance. Thus, common method variance was not deemed a serious issue in this study (Chang et al., 2010).

Data analysis

To conduct the multigroup analysis using PD, UA, masculinity, and collectivism as moderators, the sample was split into two groups. The first group consisted of developed countries—Italy and the United States; and the second group consisted of emerging countries of Brazil, China, Colombia, India, and Malaysia. This resulted in groups of 1240 developed and 1176 emerging countries subsample sizes.

The conceptual model (Figure 2) was tested by analyzing the data using PLS structural equation modelling (PLS-SEM) following a systematic two-step process. The goal of PLS-SEM is to maximize the explained variance of the endogenous variables in the path model. Due to this reason, the evaluation of the quality of PLS-SEM measurement and structural models focuses on metrics indicating the model's predictive capabilities (Hair et al., 2017). The first step involved assessing the measurement model to evaluate the consistency, reliability, and validity of the measures. The second step involved assessing the structural model to evaluate the significance and strength of the path coefficients between the variables.

Measurement model

The psychometric properties of indicator items were assessed in terms of item loadings, composite reliability (CR), convergent validity, and discriminant validity. Indicator reliability was tested using a bootstrapping procedure with 5000 randomized samples taken from the original sample and of original cardinality (Henseler et al., 2009). As shown in Table 2, all estimates of the outer loadings exceed the recommended minimum value of 0.7 (except for one indicator of collectivism) and exhibit sufficient *t*-values.

Table 2. Latent variables' measurement models.

Latent variable	Indicator	Developed countries (<i>n</i> = 1240)		Emerging countries (<i>n</i> = 1176)	
		Outer loadings	<i>t</i> value	Outer loadings	<i>t</i> value
IC	How close (or friendly) do you think you're to this person (X) from different country/culture?	0.964	352.722	0.969	351.017
	How connected do you think you're to this person (X) from different country/culture?	0.976	536.273	0.973	342.127
	Do you think that this person (X) is knowledgeable about the use of social media for class projects?	0.933	191.663	0.940	188.143

Latent variable	Indicator	Developed countries (n = 1240)		Emerging countries (n = 1176)	
		Outer loadings	t value	Outer loadings	t value
CDE	When the person (X) from different country/culture makes suggestions to the project, how much are you influenced by their opinions on your project?	0.976	530.056	0.978	438.658
	Do you consider this person (X) from different country/culture as a role model when it comes to taking decisions on key components/strategies on your project?	0.975	489.518	0.978	406.264
Xeno A	I trust more foreign than domestic companies, because they are more experiences and have more resources	0.943	207.254	0.935	180.797
	In most product categories, foreign brands outperform domestic ones	0.943	210.101	0.947	220.335
	I trust foreign products more than the domestic ones	0.945	205.186	0.943	173.752
	Just like products, I feel foreigners (like the person X) are trustworthy because they have traveled the world more than us	0.911	129.947	0.894	105.300
Xeno B	Using foreign products enhances my self esteem	0.943	171.180	0.954	248.730
	I prefer foreign to domestic brands as most of my acquaintances and friends buy foreign brands	0.939	148.248	0.944	177.701
	I purchase foreign brands to differentiate myself from others	.948	225.539	.943	204.894
	Just like products, having more foreign friends and acquaintances on FB (like the person X) makes me look popular and trendier and this enhances my self esteem	.920	145.693	.932	158.349
eWoM-	How comfortable are you about sharing any negative information (about the project or some person(s) on your team) with this person (X) from different country/culture?	1.000		1.000	
eWoM+	How comfortable are you about sharing any positive information (about the project or some person(s) on your team) with this person (X) from different country/culture?	1.000		1.000	
Overall project outcome	What rating (0–10) will you provide to your X-Culture project where you're required to work with strangers or foreigners (like the person X)?	1.000		1.000	
PD	People in higher positions should make most decisions without consulting people in lower positions	0.792	11.231	0.687	3.111
	People in higher positions should not ask the opinions of people in lower positions too frequently	0.887	19.253	0.686	2.774
	People in higher positions should avoid social interaction with people in lower positions	0.871	15.491	0.959	3.617
UA	It is important to have instructions spelled out in detail so that I always know what I'm expected to do	0.763	7.156	0.875	6.436
	It is important to closely follow instructions and procedures	0.932	9.271	0.793	4.240
	Rules and regulations are important because they inform me of what is expected of me	0.894	9.478	0.871	5.820
MAS	It is more important for men to have a professional career than it is for women	0.843	11.698	0.952	3.564
	Men usually solve problems with logical analysis; women usually solve problems with intuition	0.772	12.472	0.424	1.359
	Solving difficult problems usually requires an active, forcible approach, which is typical of men	0.941	10.823	0.892	3.998

Latent variable	Indicator	Developed countries (n = 1240)		Emerging countries (n = 1176)	
		Outer loadings	t value	Outer loadings	t value
COL	There are some jobs that a man can always do better than a woman	0.926	11.802	0.861	3.968
	Group success is more important than individual success	1.000	3.473	0.941	10.881
	Individuals should only pursue their goals after considering the welfare of the group	0.663	2.337	0.882	8.803

Note: IC: interpersonal closeness; CDE: consumer doppelgänger effect; FB: Facebook; eWoM: electronic word-of-mouth; PD: power distance; UA: uncertainty avoidance; MAS: masculinity; COL: collectivism; Xeno A: perceived inferiority; Xeno B: social aggrandizement.

The measurement model did not change when country groups were taken into account. In other words, factor loadings for the same indicators were invariant between developed and emerging countries' observations, assuring the metric invariance of the model (Calvo-Mora et al., 2015). Table 3 reports the metric invariance assessment.

Table 3. Metric invariance assessment multigroup analysis.

Latent variable	Indicators	Outer loadings-difference	Parametric test t-value	Walch-Satterthwaite test t-value
IC	How close (or friendly) do you think you're to this person (X) from different country/culture?	0.005	1.313	1.312
	How connected do you think you're to this person (X) from different country/culture?	0.003	0.736	0.728
	Do you think that this person (X) is knowledgeable about the use of social media for class projects?	0.007	1.082	1.081
CDE	When the person (X) from different country/culture makes suggestions to the project, how much are you influenced by their opinions on your project?	0.002	0.698	0.696
	Do you consider this person (X) from different country/culture as a role model when it comes to taking decisions on key components/strategies on your project?	0.002	0.693	0.691
Xeno A	I trust more foreign than domestic companies, because they are more experiences and have more resources	0.008	1.090	1.085
	In most product categories, foreign brands outperform domestic ones	0.004	0.616	0.618
	I trust foreign products more than the domestic ones	0.002	0.277	0.276
	Just like products, I feel foreigners (like the person X) are trustworthy because they have traveled the world more than us	0.017	1.603	1.595
Xeno B	Using foreign products enhances my self esteem	0.011	1.653	1.668
	I prefer foreign to domestic brands as most of my acquaintances and friends buy foreign brands	0.005	0.637	0.641
	I purchase foreign brands to differentiate myself from others	0.005	0.740	0.738
	Just like products, having more foreign friends and acquaintances on FB (like the person X) makes me look popular and trendier and this enhances my self esteem	0.012	1.371	1.374

Latent variable	Indicators	Outer loadings-difference	Parametric test <i>t</i> -value	Walch-Satterthwaite test <i>t</i> -value
eWoM-	How comfortable are you about sharing any negative information (about the project or some person(s) on your team) with this person (X) from different country/culture?	0.000	0.175	0.175
eWoM+	How comfortable are you about sharing any positive information (about the project or some person(s) on your team) with this person (X) from different country/culture?	0.000	0.355	0.354
Overall project outcome	What rating (0–10) will you provide to your X-Culture project where you're required to work with strangers or foreigners (like the person X)?	0.000	0.307	0.308
PD	People in higher positions should make most decisions without consulting people in lower positions	0.104	0.465	0.456
	People in higher positions should not ask the opinions of people in lower positions too frequently	0.201	0.957	0.933
	People in higher positions should avoid social interaction with people in lower positions	0.088	0.417	0.407
UA	It is important to have instructions spelled out in detail so that I always know what I'm expected to do	0.112	0.558	0.556
	It is important to closely follow instructions and procedures	0.138	0.761	0.756
	Rules and regulations are important because they inform me of what is expected of me	0.023	0.127	0.125
MAS	It is more important for men to have a professional career than it is for women	0.109	0.394	0.384
	Men usually solve problems with logical analysis; women usually solve problems with intuition	0.348	1.141	1.114
	Solving difficult problems usually requires an active, forcible approach, which is typical of men	0.049	0.214	0.208
	There are some jobs that a man can always do better than a woman	0.065	0.301	0.293
COL	Individuals should stick with the group even through difficulties	0.059	0.192	0.196
	Group welfare is more important than individual rewards	0.219	0.714	0.729

Note: IC: interpersonal closeness; CDE: consumer doppelganger effect; FB: Facebook; eWoM: electronic word-of-mouth; PD: power distance; UA: uncertainty avoidance; MAS: masculinity; COL: collectivism; Xeno A: perceived inferiority; Xeno B: social aggrandizement.

Convergent validity was assessed using the average variance extracted (AVE). As Table 4 shows, the AVE in all cases (for both subsamples) is above the recommended value of 0.5 (Henseler et al., 2009), implying that the indicators share more variance with their respective constructs than with the error variances. As illustrated in Table 4, Cronbach's α s for the constructs are all above the suggested cutoff value of 0.7 (Litwin, 1995), as are the CR values (Bagozzi and Yi, 1988; Henseler et al., 2009). Next, the bootstrapping standard errors for AVE and CR estimates were used to compute a modified Welch test to assess measurement invariance across group-specific path model estimates (Ringle et al., 2011). As Table 4 shows, the results of AVE and CR did not differ significantly between the two groups, thus establishing measurement model invariance, which is a necessary condition to compare structural model estimates.

AVE was used to evaluate discriminant validity. Tables 5 and 6 provide the correlations among the latent variables. The square root of AVE (listed on the diagonal) in each case is greater than

the correlation values in the corresponding rows as well as columns. This indicates that discriminant validity is well established for all constructs (Henseler et al., 2009).

Table 4. Measurement model statistics for developed versus emerging countries.

Latent variable	Quality criterion	Countries	Original sample	Diff means	t Value	p Value
IC	AVE	Developed	0.917	0.006	0.845	0.398
		Emerging	0.923			
	CR	Developed	0.971	0.002	0.845	0.398
		Emerging	0.973			
	Cronbach α	Developed	0.955	0.004	0.853	0.393
		Emerging	0.958			
CDE	AVE	Developed	0.952	0.004	0.703	0.482
		Emerging	0.957			
	CR	Developed	0.976	0.002	0.703	0.482
		Emerging	0.978			
	Cronbach α	Developed	0.950	0.005	0.703	0.482
		Emerging	0.955			
Xeno A	AVE	Developed	0.875	0.010	0.985	0.325
		Emerging	0.865			
	CR	Developed	0.966	0.003	0.986	0.324
		Emerging	0.962			
	Cronbach α	Developed	0.952	0.005	0.999	0.318
		Emerging	0.948			
Xeno B	AVE	Developed	0.879	0.011	1.097	0.273
		Emerging	0.890			
	CR	Developed	0.967	0.003	1.095	0.274
		Emerging	0.970			
	Cronbach α	Developed	0.954	0.005	1.102	0.270
		Emerging	0.959			
eWoM-	AVE	Developed	1.000	0.000	0.324	0.746
		Emerging	1.000			
	CR	Developed	1.000	0.000	0.324	0.746
		Emerging	1.000			
	Cronbach α	Developed	1.000	1.000	0.324	0.746
		Emerging	1.000			
eWoM+	AVE	Developed	1.000	0.000	0.104	0.917
		Emerging	1.000			
	CR	Developed	1.000	0.000	0.104	0.917
		Emerging	1.000			
	Cronbach α	Developed	1.000	1.000	0.104	0.917
		Emerging	1.000			
Overall project outcome	AVE	Developed	1.000	0.000	0.439	0.661
		Emerging	1.000			
	CR	Developed	1.000	0.000	0.439	0.661
		Emerging	1.000			
	Cronbach α	Developed	1.000	1.000	0.439	0.661
		Emerging	1.000			
PD	AVE	Developed	0.724	0.103	0.789	0.430

Latent variable	Quality criterion	Countries	Original sample	Diff means	t Value	p Value
UA	CR	Emerging	0.621	0.060	0.369	0.712
		Developed	0.887			
	Cronbach α	Emerging	0.827	0.038	1.728	0.084
		Developed	0.811			
	AVE	Emerging	0.773	0.032	0.244	0.808
		Developed	0.750			
MAS	CR	Emerging	0.718	0.015	0.099	0.921
		Developed	0.899			
	Cronbach α	Emerging	0.884	0.030	1.699	0.089
		Developed	0.845			
	AVE	Emerging	0.815	0.107	0.603	0.546
		Developed	0.763			
COL	CR	Emerging	0.656	0.051	0.242	0.809
		Developed	0.928			
	Cronbach α	Emerging	0.877	0.011	1.110	0.267
		Developed	0.897			
	AVE	Emerging	0.886	0.112	0.532	0.595
		Developed	0.719			
Cronbach α	Emerging	0.813	0.077	0.295	0.768	
	Developed	0.831				
	Emerging	0.908				
Cronbach α	Developed	0.806	0.003	0.134	0.893	
	Emerging	0.802				

Note: IC: interpersonal closeness; AVE: average variance extracted; CDE: consumer doppelganger effect; eWoM: electronic word-of-mouth; PD: power distance; UA: uncertainty avoidance; MAS: masculinity; COL: collectivism; CR: composite reliability; Xeno A: perceived inferiority; Xeno B: social aggrandizement.

Table 5. Construct correlations and discriminant validity.

Construct	Developed (<i>n</i> = 1240)										
	CDE	COL	IC	MAS	Outcome	PD	UA	WoM+	WoM-	XenoA	XenoB
CDE	0.976										
COL	-0.035	0.848									
IC	0.898	-0.034	0.958								
MAS	-0.03	0.039	-0.03	0.873							
Outcome	0.017	0.038	0.02	-0.02	1.000						
PD	-0.023	0.133	-0.028	0.542	-0.044	0.851					
UA	0.068	0.111	0.052	-0.186	0.022	-0.1	0.866				
eWoM+	0.837	-0.028	0.847	-0.045	-0.017	-0.035	0.055	1.000			
eWoM-	0.875	-0.031	0.876	-0.081	0.005	-0.089	0.084	0.873	1		
XenoA	0.696	0.026	0.695	0.067	-0.003	0.092	0.024	0.627	0.655	0.936	
XenoB	0.64	0.011	0.633	0.132	-0.015	0.149	-0.021	0.575	0.577	0.867	0.937

Note: Square root of AVE on diagonal. Off-diagonal elements are the correlations among constructs. AVE: average variance extracted; CDE: consumer doppelganger effect; COL: collectivism; IC: interpersonal closeness; MAS: masculinity; PD: power distance; UA: uncertainty avoidance; eWoM: electronic word-of-mouth; Xeno A: perceived inferiority; Xeno B: social aggrandizement.

Table 6. Construct correlations and discriminant validity.

Construct	Emerging (<i>n</i> = 1176)										
	CDE	COL	IC	MAS	Outcome	PD	UA	WoM+	WoM-	XenoA	XenoB
CDE	0.978										
COL	0.070	0.912									
IC	0.918	0.060	0.961								
MAS	-0.017	-0.051	-0.027	0.81							
Outcome	0.012	0.016	0.000	-0.062	1.00						
PD	-0.024	0.022	-0.014	0.508	-0.031	0.788					
UA	0.064	0.231	0.055	-0.121	0.020	-0.055	0.847				
eWoM+	0.798	0.039	0.810	-0.039	0.006	-0.020	0.043	1.00			
eWoM-	0.886	0.067	0.888	-0.058	0.004	-0.066	0.060	0.839	1.00		
XenoA	0.756	0.070	0.768	0.094	-0.037	0.101	0.047	0.656	0.726	0.930	
XenoB	0.687	0.030	0.682	0.162	-0.041	0.162	0.008	0.573	0.620	0.873	0.943

Note: Square root of AVE on diagonal. Off-diagonal elements are the correlations among constructs. AVE: average variance extracted; CDE: consumer doppelganger effect; COL: collectivism; IC: interpersonal closeness; MAS: masculinity; PD: power distance; UA: uncertainty avoidance; eWoM: electronic word-of-mouth; Xeno A: perceived inferiority; Xeno B: social aggrandizement

Structural model

After evaluating and assuring measurement model validity, SmartPLS was employed to test the structural model. Significance of the hypothesized paths was determined using the *T*-statistic calculated with the bootstrapping technique. Stone–Geisser criterion Q^2 values were obtained by running blindfolding procedures; these ranged above the threshold value of zero (i.e. 0.380–0.478), thus establishing the model’s predictive relevance (Ringle et al., 2011).

Table 7 shows the PLS results of the theoretical model that contains all the latent constructs including the moderators. The results include standardized path coefficients and significance based on two-tailed *t*-tests for developed and emerging countries.

Table 7. Structural model estimates for developed and emerging countries and *t*-test of group differences.

	Structural relation	Countries	Path			Diff		
			coefficient	<i>T</i> value	<i>p</i> Value	means	<i>T</i> value	<i>p</i> Value
H1a	IC → XenoA	Developed	0.362	7.827	0.000***	0.105	1.549	0.122
		Emerging	0.467	9.415	0.000***			
H1b	IC → XenoB	Developed	0.299	6.384	0.000***	0.026	0.358	0.721
		Emerging	0.325	5.866	0.000***			
H1c	CDE → XenoA	Developed	0.370	8.154	0.000***	0.043	0.639	0.523
		Emerging	0.327	6.579	0.000***			
H1d	CDE → XenoB	Developed	0.372	7.999	0.000***	0.017	0.234	0.815
		Emerging	0.389	6.943	0.000***			
H2a	XenoA → eWoM-	Developed	0.579	10.562	0.000***	0.153	2.102	0.036
		Emerging	0.732	15.245	0.000***			
H2b	XenoA → eWoM+	Developed	0.479	8.766	0.000***	0.151	1.977	0.048
		Emerging	0.630	11.742	0.000***			
H2c	XenoB → eWoM-	Developed	0.099	1.812	0.071	0.089	1.195	0.232
		Emerging	0.009	0.180	0.857			

	Structural relation	Countries	Path coefficient	T value	p Value	Diff means	T value	p Value
H2d	XenoB → eWoM+	Developed	0.039	0.685	0.494	0.134	1.607	0.090
		Emerging	0.173	3.168	0.002**			
H3	eWoM- → Outcome	Developed	0.360	7.127	0.000***	0.101	1.453	0.112
		Emerging	0.461	9.015	0.000***			
H4	eWoM+ → Outcome	Developed	-0.008	1.497	0.135	0.098	1.233	0.218
		Emerging	0.009	0.179	0.858			
H5a	XenoA × PD → eWoM+	Developed	-0.022	0.336	0.737	0.135	1.612	0.091
		Emerging	0.113	2.154	0.002**			
H5b	XenoA × PD → eWoM-	Developed	0.102	2.045	0.001**	0.120	1.415	0.072
		Emerging	-0.018	0.346	0.729			
H5c	XenoB × PD → eWoM+	Developed	0.057	0.871	0.384	0.046	0.631	0.535
		Emerging	0.103	1.954	0.002**			
H5d	XenoB × PD → eWoM-	Developed	0.123	2.368	0.002**	0.055	0.739	0.623
		Emerging	0.068	1.264	0.207			
H6a	XenoA × UA → eWoM+	Developed	0.006	0.119	0.905	0.072	0.779	0.436
		Emerging	0.078	1.030	0.303			
H6b	XenoA × UA → eWoM-	Developed	-0.015	0.302	0.763	0.021	0.307	0.759
		Emerging	0.007	0.133	0.894			
H6c	XenoB × UA → eWoM+	Developed	-0.040	0.795	0.427	0.026	0.341	0.733
		Emerging	-0.066	1.169	0.243			
H6d	XenoB × UA → eWoM-	Developed	-0.021	0.427	0.670	0.064	0.913	0.362
		Emerging	0.042	0.866	0.387			
H7a	XenoA × MAS → eWoM+	Developed	0.002	0.036	0.972	0.100	1.210	0.052
		Emerging	0.102	1.968	0.002**			
H7b	XenoA × MAS → eWoM-	Developed	0.152	2.969	0.001**	0.108	1.246	0.042
		Emerging	0.044	0.774	0.439			
H7c	XenoB × MAS → eWoM+	Developed	-0.011	0.196	0.845	0.143	1.652	0.081
		Emerging	0.132	2.266	0.001**			
H7d	XenoB × MAS → eWoM-	Developed	0.102	1.669	0.001**	0.150	1.877	0.069
		Emerging	-0.048	0.873	0.383			
H8a	XenoA × COL → eWoM+	Developed	0.055	1.222	0.222	0.075	0.747	0.396
		Emerging	0.130	2.166	0.001**			
H8b	XenoA × COL → eWoM-	Developed	0.100	1.668	0.002**	0.020	0.305	0.779
		Emerging	0.080	1.552	0.121			
H8c	XenoB × COL → eWoM+	Developed	-0.035	0.722	0.470	0.146	1.716	0.056
		Emerging	0.111	2.106	0.001**			
H8d	XenoB × COL → eWoM-	Developed	0.121	2.116	0.001**	0.027	0.357	0.629
		Emerging	0.094	1.870	0.062			

Note: IC: interpersonal closeness; CDE: consumer doppelganger effect; eWoM: electronic word-of-mouth; PD: power distance; UA: uncertainty avoidance; MAS: masculinity; COL: collectivism; Xeno A: perceived inferiority; Xeno B: social aggrandizement.

*Significant at $p < 0.05$; **significant at $p < 0.01$; ***Significant at $p < 0.001$.

Hypotheses testing

We received some interesting results. We utilized multigroup analyses and divided our sample into developed economies (comprising of 1240 participants from the United States and Italy) and emerging economies (comprising of 1176 participants from China, India, Colombia, Brazil, and

Malaysia). With regard to hypotheses 1a–d, we found that high levels of SSI (measured by the constructs of IC and consumer doppelgänger effect) result into high levels of perceived inferiority and social aggrandizement (measures of C-XEN or C-XEN) for both developed and emerging economies. Similarly, high levels of perceived inferiority (a measure of C-XEN) result in both positive and negative eWoM sharing for both developed and emerging economies, thus proving hypotheses 2a and b. All these hypotheses were positive and significant.

With regard to hypotheses 2c and d, we found conflicting results. High levels of social aggrandizement (a measure of C-XEN) did not result into negative or positive eWoM sharing for developed economies, whereas high levels of social aggrandizement result in positive eWoM sharing for emerging economies and no effect on developed economies. This means that GVT participants from developed economies share negative and positive eWoM due to high levels of perceived inferiority. In contrast, GVT participants from emerging economies share negative eWoM due to perceived inferiority and share positive eWoM due to social aggrandizement. Social aggrandizement plays a key role for sharing positive eWoM in emerging economies since people from these economies wish to portray positive image by sharing positive feedback due to out-group favoritism and liking for other (developed) cultures. With regard to eWoM sharing for project success in GVTs, we found strong support for hypothesis 3. Through our results, it was clear that negative eWoM sharing increases the chances of project success in GVTs for both developed and emerging economies, while positive eWoM sharing has no impact on project success. Thus, hypothesis 4 was rejected.

For studying the moderating influence of group culture (PD, UA, masculinity/femininity, and individualism/collectivism) between C-XEN and eWoM sharing in online social networks, we observed some very interesting results. We found that UA does not impact the relationships for developed and emerging economies, thus rejecting hypothesis 6. On the contrary, we observed positive and significant moderating effect of PD on relationships between C-XEN and negative eWoM sharing in online networks for developed economies, which can be classified as low PD cultures (please see Appendix 1). Further, we observed positive and significant moderating effect of PD on relationships between xenocentrism and positive eWoM sharing in online networks for emerging economies, which can be classified as high PD cultures (please see Appendix 1). With respect to masculinity and individualism, we found positive and significant moderating effect of both masculinity and individualism on relationships between xenocentrism and negative eWoM sharing in online networks for developed economies, which can be classified as individualist and masculine cultures (please see Appendix 1). In contrast, we observed positive and significant moderating effect of femininity and collectivism on relationships between xenocentrism and positive eWoM sharing in online networks for emerging economies, which can be classified as feminine and collectivist cultures (please see Appendix 1). Thus, we received partial support for hypotheses 5, 7, and 8.

General discussion

Theoretical contributions

The article contributes to the cross-cultural research on SSI, xenocentrism, eWoM, and project performance of GVTs in online social networks in three significant ways. First, we discussed SSI

as a combination of IC and consumer doppelgänger effect utilizing *social panorama* and *social learning* theories. According to Dubois et al. (2016), tie strength is closely related to IC due to psychological proximity between social dyads (Bakshy et al., 2012; Brown and Reingen, 1987; Dubois et al., 2016; Godes and Mayzlin, 2004; Granovetter, 1973). Consumers generate tie strength in social media by following other users and doppelgängers (role models/social influencers) on the basis of their knowledge and expertise similar to mental imagery of their closeness and connectedness in physical worlds. GVTs and GVT participants interact with each other based on knowledge, expertise, and psychological proximity, thus creating SSI on the basis of IC using social panorama theory (Dubois et al., 2016; Gino and Galinsky, 2012; Kreilkamp, 1984) along with tie strength (Bakshy et al., 2012; Brown and Reingen, 1987; Godes and Mayzlin, 2004; Granovetter, 1973; Marsden and Campbell, 1984; Weimann, 1983); and consumer doppelgänger effect that involves mimicking role models and influencers' behaviors in social media using social learning theory (Bandura, 1977; Keillor et al., 1996; King and Multon, 1996; Ruvio et al., 2013). As a result, we provided a conceptual definition of SSI in GVTs working in social media technology-enabled environments, whereby SSI comprises of psychological spatial imagination, IC, and mental simulations of mimicking role model behavior in online social networks.

Second, we examined C-XEN for GVTs, and how it impacts eWoM and overall project performance. Xenocentrism utilizes *system justification* theory and is comprised of two aspects: (a) perceived inferiority (or in-group derogation), which means negative stereotypical perceptions of one's own culture or in-group; and (b) social aggrandizement (or out-group favoritism), which means favoritism toward foreigners or out-groups (Balabanis and Diamantopoulos, 2016: 60). When GVT participants feel close to each other, they tend to become more other-focused and psychologically try to protect others (Cross et al., 2000; Dubois et al., 2016), thus exhibiting higher levels of xenocentrism. With higher levels of trust and high C-XEN, GVT participants are conformable sharing negative eWoM for undertaking any project corrections that improves their future project performance. In contrast, when GVT participants feel distant from other users psychologically, they tend to be more self-focused and try to protect "self" over others (Argo et al., 2006; Cross et al., 2000; Dubois et al., 2016), thus exhibiting lower levels of xenocentrism. As a result, they tend to talk positively avoiding negative eWoM due to distant psychological proximity and low xenocentrism. This negatively impacts the project performance since low xenocentric GVT members don't share any negative WoM (or feedback and warnings) with other involved team members about their projects, thus reducing chances of project success.

Third, our research delves into cross-cultural differences prevalent among GVTs from developed and emerging economies in online social networked environments, which moderate the relationships between C-XEN and eWoM, further impacting overall GVT project performance. We analyzed data comprising of global cross-cultural teams of 1240 participants from developed countries (e.g. the United States and Italy) versus 1176 participants from emerging economies (e.g. China, India, Colombia, Brazil, and Malaysia). Appendix 1 presents cultural scores along Hofstede's cultural dimensions for the United States, Italy, China, India, Colombia, Brazil, and Malaysia. We did not find support for some of our proposed hypotheses involving PD, masculinity/femininity, UA, and individualism/collectivism. We found that low PD, individualist, and masculine cultures exert strong and positive relationships between C-XEN and

negative eWoM, thus enhancing overall project performance (success). In contrast, high PD, collectivist, and less masculine (or feminine) cultures exert strong and positive relationships between xenocentrism and positive eWoM. While negative eWoM increases the chances of project success for GVTs, positive eWoM was found to have no impact on project performance for both developed and emerging economies. UA didn't moderate the relationships in our study. Further research is needed to test our assumptions and results for better understanding of cross-cultural differences that impact GVT project performance in social media and online networked environments.

Managerial implications

Our research contradicts many previous findings and provides a fresh understanding of GVTs' performance, and how GVTs utilize SSI, C-XEN, eWoM, and national culture for improving their project performance. For GVTs, it is beneficial to have social media connections who are not just friends but can function as doppelgängers, influencers, and mentors for projects supported in social online networks. Many companies use Google+ and other social media platforms to connect GVTs for guidance from other project members who can function as doppelgängers, friends, influencers, and mentors in social media space. An example of consumer doppelgänger effect is the clothing retailer, ASOS, which relies heavily on micro-influencers (500–10,000 followers) for their highly successful ASOS Insiders program, thereby recruiting stylish millennials eager to share their latest fashion finds on platforms like Instagram.¹ This leads to lessons 1 and 2.

Lesson # 1: Companies should use social media platforms (e.g. Google+, Facebook, Instagram, etc.) for employees, and continually assess performance regarding utilization of these platforms for sharing information, knowledge and feedback regarding projects, thus leading to knowledge dissemination and transfer.

Lesson # 2: Companies should incorporate the doppelgänger philosophy (of connecting employees with other social circles, friends, influencers and mentors in social media) in order to strengthen tie-strengths, IC, and thus enhance SSI for harnessing better project performance in social media networked environments.

Companies are trying to enhance C-XEN through social media. In their internal social media blogs and sites, companies often display bios and headshots of successful employees who are high performers for the month/year on various company projects and/or activities. These employees can act as influencers and mentors for other GVT members of different teams. Others feel inspired and connected to these doppelgängers, and this may lead to out-of-group favoritism or social aggrandizement. Companies may try to infuse these xenocentric tendencies so that GVT employees feel free to share both negative and positive eWoM about their projects in a way that mid-way corrections and modifications can happen for projects to be successful in future. For example, Project Management Institute encourages organizations to develop the buddy system for employees to share project management tips, tools, knowledge, and techniques they learned from previous work experiences with their buddies.² As Steve Sargent, President and CEO of GE

¹ <http://www.thedrum.com/news/2017/07/25/social-media-influencers-not-just-the-brand-big-guns>

² <https://www.pmi.org/learning/library/implementing-buddy-system-workplace-9376>

Australia and New Zealand notes, “The type of leadership we need finds its full expression in the DNA of collaborative technology, and I am determined to leverage this DNA as much as I can” (Deiser and Newton, 2013). Thus, we have the following lessons for companies.

Lesson # 3: Companies should utilize social media technologies as knowledge sharing tools to collaborate with technology, and incorporate new ideas and technologies that enhance the organization.

Lesson # 4: Companies utilizing social media technologies need to manage social media communications effectively (decide what employee messages should be linked to company blogs, what messages can be incorporated as ‘brand stories’ and company generated content on social media, and when and when not to respond to employees’ messages, and what messages to share with their various online communities) and harness a democratized, free-flow of information exchange to encourage both positive and negative word-of-mouth. Negative information, WoM, and feedback from employees should be paid higher attention for implementing corrective actions.

Cross-cultural influences and differences play a key role in social media supported projects for companies. Cross-cultural communication—be it a firm handshake, making direct eye contact, or kiss on the cheek—may lead to awkward situations in offline world and can be perceived as “offensive” in some situations. This knowledge is equally important in the online world. GVTs are formed with members from several countries, and their cultural values and background impact their performance on projects (Chen et al., 2016). In this study, we analyzed data from developed economies (the United States and Italy) and emerging economies (China, India, Brazil, Colombia, and Malaysia) working together on X-Culture project. Our results indicate that low PD, individualist, and masculine cultures foster positive relationships between xenocentrism and negative eWoM; whereas high PD, collectivist, and less masculine (or feminine) cultures foster positive relationships between xenocentrism and positive eWoM. In the battle between negative and positive project information/feedback, negative eWoM strengthens project performance in GVTs. This finding fulfils the major gap of effectively leveraging eWOM for global and cross-cultural business teams spanning beyond national boundaries in social media environments. This leads to our next lessons for companies.

Lesson # 5: Employees should be encouraged to share negative WoM and negative project information/feedback effectively and frequently for GVT project success.

Lesson # 6: Since global virtual teams are drawn from different countries, it is imperative for global organizations to understand different cultures and cultural differences (and similarities) of employees in order to strengthen employee communities in social media and improve project performance.

Lesson # 7: Companies should educate employees of Do’s and Don’ts of cross-cultural communication in both offline and online environments.

Companies are using social media platforms to engage their employees and boost cross-cultural communications. For instance, Volkswagen Ireland (<https://www.volkswagenag.com/en/social->

media.html), a 125-employee division of the international automaker, actively uses Workplace (internal social media platform founded by Facebook) across its passenger and commercial brands. Workplace was adopted by the Volkswagen Group (Workplace is now used by over 95 percent of Volkswagen Ireland) to engage employees in sharing positive and negative information about their global, cross-cultural projects for collective responsible sharing, boost interorganizational efficiency for the entire Volkswagen group, and ensure global project successes across the entire group.

Limitations and further research

First, our research conceptualized SSI as a combination of IC and consumer doppelgänger effect and demonstrated how SSI leads to C-XEN and eWoM for improving project outcomes in GVTs. In doing so, we relied heavily on data collected from GVTs formulated in an academic setting. Even though these teams reflect the nature of GVTs in corporate world, yet our research do not collect actual data from real business world. Future researchers should collect data from real corporates worldwide in order to check the accuracy of our results. A further check on consumer characteristics of age, gender, income level, industry, and so on will be helpful for future research. An analysis of GVT projects in a specific industry will produce better results and reduce any estimation bias.

Our study utilized national cultural orientation for moderating the relationship between C-XEN and eWoM. Similar to the concerns raised in Tang's (2017) study, there may be concerns with respect to subcultural differences that may lead to different empirical results. With respect to UA dimension, our research did not find any UA influence in the relationships. This may happen due to varying UA scores across countries under study. We performed multigroup analyses of developed and emerging economies, and low (as well as high) UA scores are prevalent in both categories. For example, China and India have low UA scores of 30 and 40, which is comparable to that of the United States (46) and Malaysia (30). Similarly, UA's score of Italy (75) was pretty high and comparable to Brazil (76) and Colombia (80). These scores are confusing, and moreover emerging markets like China, India, and Brazil have experienced Westernization and transformational economic progress in past few decades (Tang, 2017). Additionally, Hofstede cultural dimensions may not be representative of cultural orientation measures of the countries under study (Tang and Koveos, 2008). Future study may use other cultural measures to verify our results.

Keeping in view of future research perspectives, our study can be replicated to real-life business environments and focused on overall organizational performance outcomes of market share, customer satisfaction, new product success, profitability, and so on (Katsikeas et al., 2016; Tang, 2017) in addition to business project-related performance, operational outcomes, and relational outcomes (e.g. trust, commitment, respect for employees, employee growth, etc.). Future studies can employ our variables and perform this study in consumer setting (e.g. studying consumers from different countries instead of GVTs, and how consumers impact organizational performance). Future researchers should investigate positive and negative eWoM, and how cross-cultural differences impact consumers' or employees' willingness to engage in negative and positive eWoM (Lam et al., 2009; Schumann et al., 2010). In an increasingly global, social networked environments, these results may provide managers with insights that will enable them

to determine the right mix of international business strategies (dealing with SSI and xenocentrism) to appeal to cultural values and differences of target groups while improving their organizational performance.

Conclusion

Social media has changed the digital landscape today, specifically impacting the linear model of communications, and modifying how consumers and marketers communicate online. Although previous research has focused on mental imagery and telepresence in social media, however, very little is known about SSI and its consequent effect on cross-cultural consumer behavior expressed through consumers' xenocentric tendencies (of interacting with friends, strangers, and doppelgängers) and WoM valence in online social networks. Using PLS-SEM and multigroup analyses, we examined how SSI leads to C-XEN, which further leads to eWoM sharing and overall project performance for GVTs in social networked environments. The results revealed that high SSI tends to foster both positive and negative eWoM through higher levels of C-XEN (especially, perceived inferiority) for developed economies. People from emerging economies share negative eWoM due to high levels of perceived inferiority (or in-group derogation), and they share positive eWoM due to high levels of social aggrandizement (or out-group favoritism). The results suggest that the outlined xenocentric effects are moderated by culture. To the best of authors' knowledge, this study is among the first to examine the moderating role of culture in the relationship between SSI, eWoM, and overall project performance for GVTs operating in online social networked environments. While confirming some of the findings from previous studies, our study sheds light on important international business aspects of SSI, C-XEN, eWoM, culture, GVTs, and project performance in social media-enabled online environments.

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