

TRUST ON THE WEB: THE POWER OF SUBJECTIVE NORM ACROSS CULTURES

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Abstract

This study finds that subjective norm plays a critical role in online trust formation. It is the covariate of all cultural variables. For a person of any cultural orientation, others' opinions matter. Uncertainty avoidance and power distance, but not collectivism, most strongly influence subjective norm and trust constructs.

Introduction

While e-commerce is a global phenomenon, and understanding the cross-cultural aspects of online trust creation is inevitably crucial for its success, little study has been done on online trust and culture. Winning customers' trust is key to e-commerce success, yet "research on trust and trust beliefs in e-commerce has mostly ignored the possible effects of national culture" (Gefen and Heart, 2006, 1). Furthermore, no work has examined culture and trust at the individual level in an online context. Extending McKnight, Choudhury, and Kacmar's trust model (2002), this study explored the relationship between online trust formation and cultural influences at the individual level.

Trust may be more difficult to form with online interaction due to the inherent uncertainty associated with the online context. The online medium is not as rich as face-to-face interaction. Customers and sellers are separated in time and space. The traditional environmental cues that help one to evaluate the trustworthiness of the vendor, such as the physical appearance of stores and employees, and employees' responsiveness and empathy, are not observable (Gefen and Straub, 2004). Trust is called on more in online situations in order to overcome this inherent uncertainty.

Culture is often discussed comparatively and as pertaining to nation states. Well-known examples include Hofstede's IBM study, which extended to over 70 countries (1980) and the Globe Project (House, Hanges, Javidan, Dorfman, and Gupta, 2004), which researched 62 societies. Hofstede maintains that "culture is always a collective phenomenon, because it is at least partly shared with people who live or lived within the same social environment, which is where it was learned" (1980, 5). However, culture can only manifest itself through the individual (Robinson, 1950; Straub, Loch, Evaristo, Karahanna, and Srite, 2002). In search of culture effects on online trust formation in e-commerce, analysis at the individual level is most appropriate, as online activities are individually oriented.

Triandis (1994) points out that the culture orientations of people vary within a nation. Within a culture there are individuals who are *idiocentric*—i.e., they think, feel, and behave like people in individualist cultures—as well as individuals who are *allocentric*—i.e., they think, feel, and behave like people in collectivist cultures. These two constructs, idiocentricity and allocentricity, allow us to see and investigate cultures within a society at the individual level.

The culture instrument in this study was adopted from Srite and Karahanna (2006). Srite and Karahanna attempted to identify “espoused national cultural values as an important set of individual difference moderators in technology acceptance” (680). Srite and Karahanna defined espoused national culture values as “the degree to which an individual embraces the values of his or her national culture” (681). What they attempted to measure, although the terms are not mentioned in their article, was individual subjects’ idiocentricity and allocentricity, as Triandis uses these terms. Srite and Karahanna’s survey questions were mostly adopted from Dorfman and Howell (1988).

The present study is based on the premises that individuals hold their own internal or espoused cultures and culture manifests through individuals; that these individual cultures can be measured at the individual level; and that consequently these results can be applied to a larger context. In general, individual differences within a group are statistically bigger than mean differences among groups. The data analyzed at the individual level keep their variances, and the results are more meaningful for researchers’ interpretations.

Subjective Norm (SN)

Subjective norm (SN) refers to the social pressure that one might perceive regarding a certain behavior—“the person’s beliefs that specific individuals or groups think he should or should not perform the behavior and his motivation to comply with the specific referents” (Ajzen and Fishbein, 1980, 8). It is a commonly used variable in behavioral research. There is evidence that subjective norm is related to cultural values. Choi and Geistfeld (2004) studied online shopping decision-making in the U.S. and Korea and found that the relationship between subjective norm and intention is twice as big in Korea as in the U.S. These results are similar to those of Pavlou and Chai’s study (2002) that looked into e-commerce adoption in China and the U.S. Pavlou and Chai used three cultural dimensions—individualism/collectivism, power distance, and long/short-term orientation—to test the predictability of the Theory of Planned Behavior. They found that only collectivism affects the relationship between subjective norms and intention. Trafimow, Finlay, and their colleagues also found that some people are more under normative control than attitudinal control, and those who were strongly influenced by normative control were those who identified more strongly with the collective self (Finlay, Trafimow, and Moroi, 1999; Trafimow and Finlay, 1996).

The findings on relationships between subjective norm and culture are far from conclusive. Some studies found no relationship between collective self and subjective norm (Fekadu and Kraft, 2002; Srite and Karahanna, 2006). In a meta-analysis of the technology acceptance model, Schepers and Wetzels (2007) reported large effects of subjective norm on intention, but found stronger effects of subjective norm in western cultures than nonwestern cultures. Existing literature indicating the relationship between subjective norm and culture is mostly concerned with the individualism/collectivism (IC) dimension. The other three cultural dimensions—masculinity/femininity (MF), power distance (PD), and uncertainty avoidance (UA)—have

rarely been studied in relation to subjective norm. This study explores the relationships of SN and all four culture dimensions with online trust.’

McKnight, Choudhury, and Kacmar’s Online Trust Model

McKnight, Choudhury, and Kacmar introduced a measurable multidimensional e-commerce trust building model (2002). This model focuses on initial trust. (Hereafter, both the 2002 article and the model it describes will be referred to as MCK02.) The authors integrated various trust constructs within the broad framework of the Theory of Reasoned Action (TRA). They identified four higher trust constructs: disposition to trust, institution-based trust, trusting beliefs, and trusting intentions. The theory suggests the linear causal relationships among these four trust constructs. Trusting intentions is a surrogate construct for actual trusting behaviors, as actual trusting behaviors are difficult to measure in a research context. Disposition to trust (i.e., the person’s level of trust across various situations) influences the formation of institution-based trust (e.g., how the person trusts e-vendors in general). Accordingly, disposition to trust and institution-based trust influence trusting beliefs toward the e-vendor in question, which subsequently influences the formation of the person’s trusting intentions. Disposition to trust is considered to influence all of the other three trust constructs, and institution-based trust is considered to influence both trusting beliefs and trusting intentions.

Subjective norm is not included in the MCK02 trust model. McKnight et al. (2002) maintain that the trust constructs of their model are placed within the broad framework of the Theory of Reasoned Action (TRA) proposed by Fishbein and Ajzen (1975). SN is one of two basic constructs that lead to intention in the TRA. The TRA has been empirically supported in numerous studies (reported in Hale, Householder, and Greene, 2003), including cross-cultural studies (Lee and Green, 1991). In light of the TRA, the MCK02 trust model would be a more comprehensive model if SN were included in it. Therefore, in this study, MCK02 was extended to include subjective norm and culture variables. Three subjective norm questions from Mathieson (1991) were adapted to fit this context, as seen in the question: “People whose opinions I value prefer that I use online vendors for purchasing products and planning a travel.”

Method

Undergraduate students at a U.S. university participated in the experiment. Students were recruited from various courses and received extra credit for their participation. Because this study concerns initial trust, only first time users of the website in question were included, resulting in 194 data points for the analysis (78 male; 116 female; average age 22.2 years old). As for participants’ ethnicity, most students identified themselves as Japanese (40.6%), followed by Chinese (14.5%), Caucasian (14.1%), Filipino (8.3%), and Korean (6.5%). Participants were found to be web savvy. Their average time spent on web activities per day was 3.5 hours. About 65% of the students spent more than two hours a day on web activities.

The task was changed from the legal advice search used in the original MCK02 study to a fact-search on a tourism website (<http://www.jal.co.jp/en/>). This website is designed to allow people

to access information on important tourist destinations. The participants were asked to find particular pieces of information about tourist destinations in Japan and other travel information concerning Japan. For example, they were given instructions such as “Find out when the capital was established in the ancient city of Nara” and “Find out the cost of a 7-day Japan Rail Pass.” The participants clicked their way through the website looking for the pertinent information, and wrote down answers on a task sheet. Participants were instructed to turn in the task sheet when it was completed. All subjects seemed to take the tasks seriously. Most subjects completed the four tasks in about ten minutes. Having completed the tasks, subjects were instructed to go to the online survey site (<http://www.surveymonkey.com/>). Most subjects completed the online questionnaire in 15 to 20 minutes. No technical problems were encountered while the experiments were conducted.

Results and Discussion

The results of the structural equation modeling with the second order model were more supportive of the theory than MCK02’s results. Having successfully replicated the MCK02 trust model with a different website (see Hitosugi, 2009 for a complete report on the replication), further analyses were conducted including subjective norm (SN) and the four culture variables (IC, PD, MF, and UA). Significant effects of subjective norm on all four trust constructs were found at the significance level of $p \leq .05$. In particular, SN has the strongest direct effect on institution-based trust (coefficient = .31), as well as having strong effects on disposition to trust (.27) and trusting beliefs (.23). The coefficient from subjective norm to intention to trust is .16. With the introduction of SN, the path from “disposition to trust” to “intention to trust” (previously significant with this dataset but not significant in MCK02) turned non-significant. The results supported the use of SN as a critical construct in trust formation and trust intention.

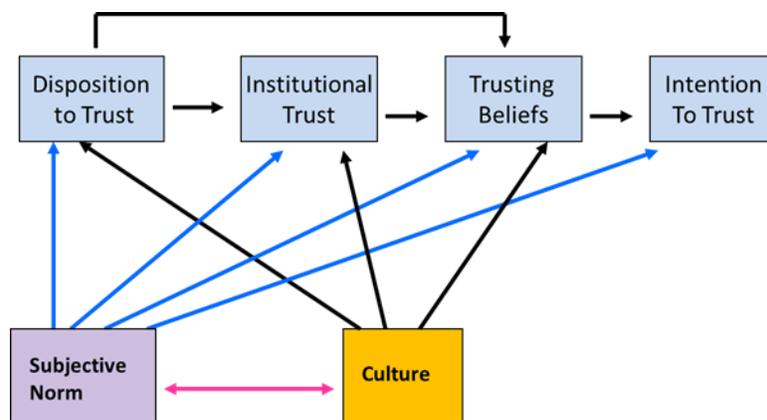
Having confirmed that SN affects every trust construct in the model, another analysis including all four cultural variables was conducted. The relationship between trust constructs and subjective norm was intact even with the addition of cultural variables. Culture variables revealed interesting relationships with SN and within themselves. SN is found to be a positive covariate of all four culture variables. SN positively links culture variables to trust constructs. In particular, not IC, but UA has the strongest covariance with the SN and has a direct effect on trust constructs. The covariance between SN and UA is the largest at .49; that is, 24% of variance is shared between SN and UA. The covariance of PD and SN is .21, of MF and SN is .19, and of IC and SN is .15. IC has the smallest path coefficient to SN among the four cultural variables.

Upon examining the relationships among the four culture variables themselves, three culture variables, MF, PD, and IC, are found to be significantly associated. The covariance between MF and PD is .54; that is, these variables share the variance of 29%. Similarly, the covariance between IC and PD is .32, and between MF and IC is .31. Contrary to expectations, UA is not a covariate of any of the other three culture variables, but has the strongest association with SN.

UA may be a culture-free universal variable in the online context. Further research is needed to ascertain the nature of UA in the online context.

Two out of the four culture variables, PD and UA, were found to directly influence trust constructs. IC and MF did not have significant direct effects on trust. UA had the largest direct effects on “trusting beliefs” with a .24 coefficient; and with “disposition to trust” at .16. PD positively influenced “disposition to trust” with a coefficient of .15 and “institutional trust” with a coefficient of .15. It is reported that people from countries rated high in the PD index tend to agree that the increasing development of technology is desirable (Inglehart, 1997; Helmreich and Merritt, 1998). Since the online activities are still perceived as new technology in society, people high in PD might perceive online trust as part of the equation that “the more development of technology is desirable”. Furthermore, IC and MF by themselves might not directly influence trust, but they still indirectly affect trust constructs through SN.

FIGURE 1
Integrated Trust and Culture (ITC) Model: Extension of McKnight et al. Model (2002)



Conclusion

The results of this study demonstrate the power of SN in online initial trust formation across all cultures. All culture dimensions influence SN. The relationships between SN and culture are positive: the greater the masculinity, collectivism, power distance, and uncertainty avoidance are, the more strongly SN is influenced. For a person of any cultural orientation, the opinions of others are valued in online trust. Because online shopping inherently involves more risk-taking than traditional shopping, people rely more on the opinions of those they trust.

This study also found that people with different cultural orientations form initial online trust differently. People high both in UA and PD tend to be more trusting, and they assume that people are generally honest and sincere, and develop institutional trust and trusting beliefs in a particular vendor more easily. The IC, collectivism orientation, has no direct effects on online initial trust, and had the weakest association with SN. The IC dimension is the culture dimension

most often used in academic studies; however, this study indicates that utilizing the UA and PD dimensions in future research might yield more meaningful results.

Last, like McKnight et al.'s trust model, this trust and culture model is cognitive-based. It addresses no affective factor in the formation of initial trust. We know as a first principle that feelings and emotions toward a particular object are closely tied to how we form trust toward that object. Affect has effects on IS adoption (Chea, 2006), trust formation, and task performance (Neerincx and Streefkerk, 2003). Though there might be some methodological issues in conducting such research, research on the relationships among emotion, trust, and cultural factors in online environments would promise rich findings in future studies.

References

Ajzen, Icek, and Martin Fishbein, (1980) Understanding Attitudes and Predicting Social Behavior. Englewood Cliffs, NJ: Prentice-Hall.

Chea, Sophea, (2006) "Understanding the Roles of Emotion in Technology Acceptance." PhD diss., University of Hawai'i at Mānoa.

Choi, Jayoung, and Loren V. Geistfeld, (2004) "A cross-cultural investigation of consumer e-shopping adoption," Journal of Economic Psychology 25 (6):821-838.

Dorfman, Peter W., and Jon Howell, (1988) "Dimensions of National Culture and Effective Leadership Patterns: Hofstede Revisited," Advances in International Comparative Management 3:127-50.

Fekadu, Zelalem, and Pål Kraft, (2002) "Expanding the theory of planned behaviour: The role of social norms and group identification," Journal of Health Psychology 7 (1):33-43.

Finlay, Krystina, David Trafimow, and Eri Moroi, (1999) "The Importance of Subjective Norms on Intentions to Perform Health Behaviors," Journal of Applied Social Psychology 29:2381-93.

Fishbein, Martin, and Icek Ajzen, (1975) Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research. Reading, MA: Addison-Wesley.

Gefen, David, and Tsipi Heart, (2006) "On the need to include national culture as a central issue in e-commerce trust beliefs," Journal of Global Information Management 14 (4):1-30.

Gefen, David, and Detmar W. Straub, (2004) "Consumer trust in B2C e-Commerce and the importance of social presence: experiments in e-Products and e-Services," Omega-International Journal of Management Science 32 (6):407-424.

Helmreich, Robert L., and Ashleigh C. Merritt, (1998) Culture at Work in Aviation and Medicine: National, organizational and professional influences. Aldershot, UK: Ashgate.

- Hitosugi, Claire Ikumi, (2009) "Effects of Culture on Online Initial Trust: Individual Level Analysis." PhD diss., University of Hawai'i at Mānoa.
- Hofstede, Geert H, (1980) Culture's Consequences, International Differences in Work-Related Values. Beverly Hills, CA: Sage.
- House, Robert J., Paul J. Hanges, Mansour Javidan, Peter W. Dorfman, and Vipin Gupta, (2004) Culture, Leadership, and Organizations: The Globe Study of 62 Societies. Thousand Oaks, CA: Sage.
- Inglehart, Ronald, (1997) Modernization and Postmodernization: Cultural, economic and political change in 43 societies. Princeton, NJ: Princeton University Press.
- Lee, Choi, and Robert Green, (1991) "Cross-cultural examination of the Fishbein behavioral intentions model," Journal of International Business Studies, Second Quarter 22 (2):289-305.
- Mathieson, Kieren, (1991) "Predicting User Intentions: Comparing the Technology Acceptance Model with the Theory of Planned Behavior," Information Systems Research 2 (3):173-191.
- McKnight, D. Harrison, Vivek Choudhury, and Charles Kacmar, (2002) "Developing and Validating Trust Measures for E-Commerce: An Integrative Typology," Information Systems Research 13 (3): 334-59.
- Neerincx, Mark A., and Jan Willem Streefkerk, (2003) "Interacting in Desktop and Mobile Context: Emotion, Trust and Task Performance." Paper presented at the first European Symposium on Ambient Intelligence (EUSAI), Eindhoven, The Netherlands.
- Pavlou, Paul A., and Lin Chai, (2002) "What Drives Electronic Commerce across Cultures? A Cross-Cultural Empirical Investigation of the Theory of Planned Behavior," Journal of Electronic Commerce Research 3 (4): 240-53.
- Robinson, W. S., (1950) "Ecological Correlations in the Behavior of Individuals," American Sociological Review 15 (3): 351-57.
- Schepers, Jeroen, and Martin Wetzels, (2007) "A Meta-Analysis of the Technology Acceptance Model: Investigating Subjective Norm and Moderation Effects," Information & Management 44 (1): 90-103.
- Srite, Mark, and Elena Karahanna, (2006) "The Role of Espoused National Cultural Values in Technology Acceptance," MIS Quarterly 30 (3): 679-704.
- Straub, Detmar, Karen Loch, Roberto Evaristo, Elena Karahanna, and Mark Srite, (2002) "Toward a Theory-Based Measurement of Culture," Journal of Global Information Management 10 (1): 10.

Trafimow, David, and Krystina A. Finlay, (1996) "The Importance of Subjective Norms for a Minority of People: Between-Subjects and Within-Subjects Analyses," Personality and Social Psychology Bulletin 22 (8): 820–28.

Triandis, Harry. C., (1994) Theoretical and methodological approaches to the study of collectivism and individualism. In Individualism and collectivism: Theory, method, and applications, edited by U. Kim, H. C. Triandis, C. Kagitcibasi, S.-C. Choi and G. Yoon. Thousand Oaks: Sage.