Personalization to New Website Users: The Role of Trust and Culture

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Personalization to New Website Users: 
The Role of Trust and Culture

Completed Research Paper

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ABSTRACT

In ecommerce, many market followers would like to have personalization systems in place to more effectively compete with market leaders. However, retailers face a significant challenge in forming initial trust with new customers, especially when the new customers are culturally diverse. Acknowledging this dilemma, this study examines the moderating cultural effects of espoused individualism/collectivism and uncertainty avoidance on the relationships between four different types of trust, namely, propensity to trust, institutional based trust, cognitive trust, and emotional trust, relative to the intention to use personalization system. Drawing on the theory of reasoned action, we first present different types of trust. We then develop a process model to explain how cultural differences affect types of trust. This study contributes to current literature by theoretically accounting for the impact of espoused cultural dimensions on online trust, and practically suggesting ways to increase the utilization of personalization system.

Keywords

Personalization, ecommerce, theory of reasoned action, trust, espoused individualism, espoused collectivism, espoused uncertainty avoidance, propensity to trust, institutional based trust, cognitive trust, emotional trust.

INTRODUCTION

Nowadays, market followers who capture a small market share face a significant challenge in that they possess little, or no, customer information on a new user and must rely on adaptive personalization (Ho, Bodoff and Tam 2011). Thus, they have no choice but to generate recommendations primarily on clickstream data and searching occurring in real time on the follower’s website to derive personalized recommendations. This typically results in product recommendations that are less refined or informative than those based on past purchases, causing further dissipating trust in the market follower’s website (Ho et al. 2011). In essence, because of the market follower’s lack of reputation, new customers are exposed to more online risks. They may also be less informed by the personalization based on only click-streams, making it difficult to accept individualized recommendations from the follower’s personalization systems (Ho et al. 2011; Xiao and Benbasat 2007). Without the presence of customer trust, the concerns of perceived risks and online vendors’ credibility are accentuated (Gefen, Karahanna and Straub 2003; Wang and Benbasat 2008). It is important, but also difficult, for market followers to build strong trust relationship with new customers through the usage of personalization systems.

There has been scant research examining the effects of cultures on trust through the usage of personalization systems, particularly the impact of how culture moderates trust (Benbasat, Gefen and Pavlou 2008; Gefen, Benbasat and Pavlou 2008). In fact, research has shown that trust and culture are very closely related and trust changes across cultures (Doney, Cannon and Mullen 1998; Schoorman, Mayer and Davis 2007). Therefore, cultural dimension should be taken into account as determining factors in the adoption of personalization systems, particularly in the case of new users who are unfamiliar with a follower’s websites.

Not only culture can possibly affect trust formation overall, but culture may also influence how new customers adopt personalization systems differently due to individual differences in motivation and emotion across cultures (Hofstede, Jonker, Meijer and Verwaart 2006; McKnight, Choudhury and Kacmar 2002; Schoorman et al. 2007). Hence, finding out the cultural differences on how new customers build trust through the usage of personalization systems can theoretically extend the
conceptual foundations of online trust to account for the impact of cultural dimensions, and practically improve the practices to utilize personalization systems. In this study, we focus on trust formation and the moderating effects of culture when new users interact with personalization systems on unfamiliar websites.

Previous research (e.g. Wang and Benbasat 2008; Weiquan and Benbasat 2005) has shown that trust formation is an important factor in adopting personalization systems. Unlike a traditional recommendation systems, web-based personalization systems involve a lot of risks and privacy concerns which could influence how new online shoppers are willing to engage in online transactions. In addition, each type of trust requires different efforts to form (McKnight et al. 2002). Understanding the relationship between culture and trust formation, as a result, helps determine how trust formation is affected by cultural dimensions. As such, the research questions to be solved in this paper are:

1. Does culture moderate trust on personalization adoption on unfamiliar websites?
2. How does culture impact trust formation in the context of personalization adoption on unfamiliar websites?

Our process model draws its theoretical foundation from the theory of reasoned action (TRA). By using TRA, we can predict individual’s behavior based on his or her intention to adopt a personalization system.

The paper is organized as follows. First, we present our literature review of trust formation, cultural dimensions, and how TRA ties those constructs together. Then, we propose our hypotheses and supporting logics. Next, we present our process model resulting from our hypotheses and the proposed methodology. Finally, the last section discusses the potential contributions and provides concluding comments.

THEORETICAL FOUNDATIONS

Trust Formation

Many types of trust have been proposed in literature (e.g. Jarvenpaa, Knoll and Leidner 1998; Komiak and Benbasat 2006; Mayer, Davis and Schoorman 1995; McKnight, Cummings and Chervany 1998) and most trust models have been defined in very specific contexts such as organizational trust (Mayer et al. 1995), swift trust in virtual team (Jarvenpaa et al. 1998), or trust in ecommerce (McKnight et al. 2002). Trust might be inferred differently across disciplines and contexts but in this particular setting of personalization adoption trust is defined as the “willingness to depend on a vendor to deliver on commitments” (McKnight et al. 2002 p. 335).

Trust in personalization systems is not a unidimensional but a multi-dimensional concept (Komiak and Benbasat 2006). Building on the earlier work of Mayer et al. (1995), McKnight et al. (1998) and Komiak and Benbasat (2006), we outline an updated paradigm for trust formation that trust consists four dimensions; that is, propensity to trust (or personal based trust), institutional based trust, cognitive based trust, and emotional based trust. Each type of online trust concepts has different implication for new customer’s intention and is formed in its own way (McKnight et al. 2002). Thus, it is crucial to distinguish each of these types and how they interact with each other in trust formation for new customers.

First of all, trust is formed based on individual propensity to trust which is also called personal based trust. It is defined as a general tendency to be willing to depend on a technology or a person across a broad spectrum of situations, technologies, and people (Mcknight, Carter, Thatcher and Clay 2011; McKnight et al. 2002). This personality trait could be carried from one context to another (Mayer et al. 1995). For example, digital natives tend to trust technology more than digital immigrants because they are more comfortable in using technology to explore the world and their own identity (Vodanovich, Sundaram and Myers 2010). McKnight et al. (2002) theorized two dimensions of propensity to trust – namely, faith in humanity, the general belief that others are well meaning and reliable, and trusting stance, the belief that one will obtain better results by dealing with people as though these people are well meaning and reliable. These two sub-constructs of propensity to trust determine different levels of initial trust. Consequently, trust-formation strategies will differ for individuals with low or high propensity to trust (McKnight et al. 1998; McKnight et al. 2002).

Secondly, trust is also formed by institutions. It is when a new customer believes that the online environment in which he/she engages is safe and protected (Gefen et al. 2003; McKnight et al. 2002; Vance, Elie-dit-cosaque and Straub 2008). This institution-based trust refers to “one’s sense of security from guarantees, safe nets, or other impersonal structures inherent in a specific context” (Gefen et al. 2003 p. 64). During this trust formation, new customers will look for different signs of structural assurances as well as situational normality, defined as an assessment of whether the recommendations will be successful and secured because the situation is favorable, before engaging with a personalization system (Mcknight et al. 2011; McKnight et al. 1998). Signs of monitoring and feedback mechanism (i.e. structural assurances) or a personalization
system (i.e. situational normality) could become potential justifications for an individual’s incentive to continue using personalization systems (Gefen et al. 2003).

The third form of trust is cognitive trust, defined as new customer’s rational expectation that a personalization system has necessary attributes to benefit the customers (Komiak and Benbasat 2006). This concept also aligns with the trusting belief in McKnight et al. (2002), in which new customers have the perception that a personalization system has attributes to be relied on (Gefen et al. 2003; Komiak and Benbasat 2006; Mayer et al. 1995; McKnight et al. 2002). In the context of a personalization system, incentive to engage in a personalization system is computed by conscious calculation of advantages based on competence and integrity of a personalization system (Komiak and Benbasat 2006; Mayer et al. 1995). If there are good reasons to believe that personalization systems has the capability to provide good recommendations and objective advice, cognitive trust will then be formed (Komiak and Benbasat 2006).

Lastly trust is also theorized as emotional trust, a new customer’s feeling of security and comfort about relying on a personalization system (Komiak and Benbasat 2006). This type of trust overcomes the limitations of cognitive trust because trust decision making is not only based on rational choices but also on emotional choices (Guinea and Markus 2009; Komiak and Benbasat 2006; Sun 2010). In a personalization system, emotional trust includes both an individual’s evaluation of cognitive beliefs and his or her feeling of security and comfort in relying on a personalization system to make shopping decisions (Komiak and Benbasat 2006).

In personalization adoption, we argue that all four types of trust are dependent on each other and each of them influences new shopper’s intention to rely on a personalization system to make decisions. This is because online transactions evolves different level of risks and customer typically becomes skeptical when they using unfamiliar ecommerce website (Komiak and Benbasat 2006; McKnight et al. 2002). In summary, we will organize the different aspects of trust in their order of occurrence. First, each new shopper has his/her own tendency to trust people, situation, and technology. This tendency is based on the environment he or she interacts with (e.g. culture, experiences etc.) (Gefen et al. 2003; Mayer et al. 1995). Then, the general propensity to trust leads to the initial use of a personalization system whereby users actually explore and experience the technology. At this stage, an individual will justify his or her overall of usage of personalization systems. Signs of monitoring and feedbacks (i.e. structural assurance) and any unexpected or suspicious procedures occurring when using a personalization system (i.e. situational normality) are considered for continuing usage (Gefen et al. 2003; Vance et al. 2008). Next, individual will use rational approaches to determine whether a personalization system could give one expected personalized products or services (Komiak and Benbasat 2006). If this condition is met, cognitive trust is formed and the individual will use his or her feelings to rely on the personalization systems to make shopping decisions (i.e. intention to adopt) (Komiak and Benbasat 2006).

Another important point about the trust formation is that four types of trust are not perfectly chronological. Alternatively, it is possible for new customers to skip phases in reaching the final stage. For instance, propensity can directly impact new shopper’s trusting intention without form institution-based trust, cognitive trust, and emotional trust (McKnight et al. 2002). However, in this study, we examine the process model of trust in which customers experience the whole trust formation process with its all four stages.

**Individualism, Collectivism, and Uncertainty Avoidance**

Among so many definitions of national culture, Hofstede, Hofstede and Minkov (2010)’s definition is the most widely accepted (Bhat and Steers 2009; Straub, Loch, Evaristo, Karahanna and Srite 2002). Hofstede et al. (2010) defines culture as “the collective programming of the mind that distinguishes the members or category of people from another” (Hofstede et al. 2010 p. 6). Also according to Hofstede et al. (2010), five dimensions of culture are: individualism/collectivism, power distance, uncertainty avoidance, masculinity/femininity, and time orientation. These five dimensions of culture values have been widely used in IS literature, particularly in IT usage and IT adoption (e.g. Lowry, Zhang, Zhou and Fu 2010; Rai, Maruping and Venkatesh 2009; Sia, Lim, Leung, Lee, Huang and Benbasat 2009; Srite and Karahanna 2006; Vance et al. 2008). In context of ecommerce, however, previous research (e.g. Lim, Leung, Sia and Lee 2004; Sia et al. 2009) has shown that only individualism/collectivism and uncertainty avoidance dimensions affect individual behaviors in online settings. In particular, Benbasat et al. (2008) suggested that collectivism/individualism and uncertainty avoidance are the key elements affecting trust. In our study, we also recognize and focus our research on individualism/collectivism and uncertainty avoidance as the two key cultural dimensions that impact trust in personalization adoption.

Individualism/collectivism is probably the most studied cultural dimension in IS literature (Bhagat and Steers 2009; Lowry, Cao and Everard 2011). Individualism describes cultures in which the bonds between individuals are weak, whereas collectivism describes cultures in which the bonds between individuals are strong (Hofstede 2001; Hofstede et al. 2010). Uncertainty avoidance, on the other hand, suggests that people from cultures with high uncertainty avoidance have lower
tolerance for uncertainty, higher need for well structure, and stronger faith in institution; people from cultures with low certainty avoidance have high tolerance to uncertainty and are easy to change than people from cultures with high certainty avoidance (Bhagat and Steers 2009; Hofstede 2001; Hofstede et al. 2010). These dimensions of culture lead to differences among people across cultures in terms of language, personality, behavior, and motivation, etc. (Bhagat and Steers 2009; Hofstede 2001; Hofstede et al. 2010). In one recent study, Sia et al. (2009) utilized the individualism/collectivism to explain why trust form in online context in Australia (i.e. individualistic culture) is different from trust formation in Hong Kong (i.e. collectivist culture).

Hofstede et al. (2010) created a very robust model to measure the cultural differences among nations. This model works well on national level but it shows limitations when applied on individual level. Many critiques argue that individuals perceive cultural values differently or may have multiple cultural identities because they belong to many cultural groups at the same time (Srite and Karahanna 2006; Straub et al. 2002). Therefore, using national cultural dimensions to predict individual behavior is inappropriate (Srite and Karahanna 2006; Straub et al. 2002). To overcome the shortcoming of Hofstede et al. (2010), Srite and Karahanna (2006) suggested measuring an individual’s national cultural values by using an individual’s espoused national cultural values, that is, “the degree to which an individual embraces the values of his or her national culture”. Hofstede’s cultural framework has been transformed into “espoused” national cultural values and is treated as independent variables in their study.

We agree with Srite and Karahanna (2006) that using the individual’s espoused national cultural values helps distinguish differences among individuals more precisely. The below table summarizes the two constructs of espoused culture values used in this study.

<table>
<thead>
<tr>
<th>Espoused Culture Values</th>
<th>Definitions</th>
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<tbody>
<tr>
<td>Individualism/Collectivism</td>
<td>Degree to which the individual emphasizes his/her own needs as opposed to the group needs and prefer to act as an individual rather than as a member of a group.</td>
</tr>
<tr>
<td>Uncertainty Avoidance</td>
<td>Uncertainty avoidance is the level of risk accepted by the individual, which can be gleaned by his/her emphasis on rule obedience, ritual behavior, and labor mobility. This dimension examines the extent to which one feels threatened by ambiguous situations.</td>
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**Theory of Reasoned Action**

Our research model uses TRA (Fishbein and Ajzen 1975) which is widely used in IT adoption (Komiak and Benbasat 2006). According to Fishbein and Ajzen (1975) individual’s behavior can be predicted based on his or her intention to perform this behavior. The intention can be affected by individual’s attitude toward behavior, and subjective norms regarding the particular behavior which is defined as an individual’s perception of whether those who are important to he or she think the behavior should be performed (Fishbein and Ajzen 1975). In the context of ecommerce where shoppers behave voluntarily rather than mandatorily, subjective norms are considered more trivial in predicting individual’s behavior than individual intention (Komiak and Benbasat 2006). Because the study examines the use of personalization systems which is voluntary, we will emphasize only on the attitude aspect (e.g. Gefen et al. 2003; Komiak and Benbasat 2006; Lowry et al. 2011). Grounded on TRA, this study conceptualizes propensity to trust, institutional based trust as antecedents to trusting beliefs, cognitive trust as trusting beliefs, and emotional trust as an attitude (Komiak and Benbasat 2006; McKnight et al. 2002). The TRA suggests that trusting beliefs (i.e. cognitive trust) can predict trusting attitude (i.e. emotional trust), thus leads to behavioral intention (i.e. intention to adopt). Figure 1 below describes our proposed research model.
Propensity to trust
Propensity to trust is defined as general tendency to depend on technology or other people (McKnight et al. 2011; McKnight et al. 2002). In the context of personalization adoption, if one has high willingness to depend on technology or other people, then he or she is more likely to assume that personalization systems can protect him/her from threats such as information overload (McKnight et al. 2002). On the other hand, if one lacks willingness to adapt new things, he or she will less likely depend on a personalization system. This relationship is especially effective when end users do not know about the market followers or never use personalization systems before (Mayer et al. 1995; Rotter 1971). Thus, we propose that:

H1: propensity to trust will increase institutional based trust.

Institutional based trust
Institutional based trust can increase cognitive trust in two ways: (1) enabling new users to believe that personalization systems are trustworthy and (2) forming the belief in the competence of personalization systems (Komiak and Benbasat 2006; McKnight et al. 2002). In the context of personalization adoption, one way institutional trust formed is when new users perceive monitoring and feedback of the personalization systems (Pavlou and Gefen 2004). If the amount of information and the frequency of receiving perceived monitoring and feedback is the same as new users expect, they will more likely to think that the personalization systems is creditable for giving recommendations, thus forming the beliefs about the competence of personalization systems. Another way institutional trust formed is when new users examine the overall process of personalization systems (McKnight et al. 2002). If they do not see any suspicion in using personalization systems, they will likely to think that the system is reliable and form the belief that personalization systems are trustworthy. Hence, we posit that:

H2: Institutional based trust will increase cognitive trust.

Cognitive trust, emotional trust and intention to use personalization for decision making
The TRA suggests that the attitude to perform behavior is influenced by the belief that the performing behavior will lead to positive consequences (Fishbein and Ajzen 1975). This relationship fits well to explain the causality between cognitive trust and emotional trust. In the context of personalization adoption, if the cognitive trust is formed by the belief that personalization systems can give objective and good advice to new customers, they will likely to feel comfortable and secured to rely on personalization systems to make decision (Komiak and Benbasat 2006). Similarity, the TRA proposes that
individual’s intention is predicted based on his or her attitude to perform behaviors. When new consumers feel comfortable and protected to use personalization systems for their decision making, they tend to use personalization systems to make decision (Komiak and Benbasat 2006). Thus, we hypothesize that:

**H3:** Cognitive trust will increase emotional trust.

**H4:** Emotional trust will increase the intention to use personalization for decision making.

**Espoused Individualism and Collectivism**

Espoused individualist typically has more universal viewer than espoused collectivist (Hofstede 2001; Hofstede et al. 2010; Huff and Kelley 2003). While espoused collectivists are tied to their in-group relationship and tend to display their in-group bias (Hofstede et al. 2010). Huff and Kelley (2003), for example, has shown that espoused collectivists tend to be ineffective to deal with strangers; they sometimes even uses avoidance behaviors. Similarly, Yamagishi, Jin and Miller (1998) defined that in-group bias is the long-term interest for espoused collectivists because they intrinsically like to do so. Having this type of bias reduces the chance to develop trust with out-group members. As the result, espoused individualists are likely to form the institutional based trust than espoused collectivists. Hence, we postulate that:

**H5:** The relationship between propensity to trust and institutional based trust will be higher for the espoused individualist than for the espoused collectivist.

Both espoused individualist and espoused collectivist have different ways to influence institutional based trust. Doney et al. (1998) argued that espoused collectivists are more likely to use prediction or transference trust-formation process. More specifically, espoused collectivists use their previous experience to judge whether or not a target’s behavior is predicted to build trust. In the absence of prior experience, espoused collectivists will use their connections with other in-group members to form trust (Doney et al. 1998; Lim et al. 2004). On the other hand, espoused individualists use a calculative approach to build trust. As such, they will more likely to form cognitive trust than espoused collectivists (Lim et al. 2004). Thus, we propose that:

**H6:** The relationship between institutional based trust and cognitive trust will be higher for the espoused individualist than for the espoused collectivist.

Espoused individualists also differ from espoused collectivist in the way they build cognitive trust. When using rational approach, espoused collectivists are more likely to seek opinions from other in-group members. Occasionally, they need to place group interests over their individual interests (Doney et al. 1998; Hofstede 2001; Hofstede et al. 2010). Espoused individualists, on the other hand, are more opportunistic than espoused collectivists (Doney et al. 1998). They typically assess the competence and ability of personalization systems before relying on it to make shopping decision rather than asking opinions from group members. Thus, espoused individualist is more likely to form emotional trust than espoused collectivist. We hypothesize that:

**H7:** The relationship between cognitive trust and emotional trust will be higher for the espoused individualist than for the espoused collectivist.

**Espoused Uncertainty Avoidance**

Researchers suggest that trust and risk are associated (e.g. Mayer et al. 1995; McKnight et al. 1998; Pavlou and Gefen 2004). In context of personalization adoption, trust is defined as “willingness to take risk” (Mayer et al. 1995; McKnight et al. 2002). Indeed, ecommerce involves a lot of risks for consumers because there is no evidence that online vendors will not engage in harmful opportunistic behavior; thus, trust is a crucial factor to reduce the perceived risk of consumers (Gefen et al. 2003; Mayer et al. 1995).

In general, people with high espoused uncertainty avoidance tend to have low tolerance to risks than people with low espoused uncertainty avoidance. IS literature has identified many type of risks that could affect propensity to trust, institutional based trust, and cognitive trust such as lack of learning ability to learn new things (i.e. personal innovativeness), lack of web trust, or lack of perceived site quality (McKnight et al. 2002). Each type of risks can differently impact how people form trust in each stage depending on the level of risk tolerance. As the result, people with low espoused uncertainty avoidance tend to have higher trust in each stage than people with high espoused uncertainty avoidance. Therefore, we posit that:

**H8:** The relationship between propensity to trust and institutional based trust will be higher for the low espoused uncertainty avoidance people than for high espoused uncertainty avoidance people.
H9: The relationship between institutional based trust and cognitive trust will be higher for the low espoused uncertainty avoidance people than for high espoused uncertainty avoidance people.

H10: The relationship between cognitive trust and emotional trust will be higher for the low espoused uncertainty avoidance people than for high espoused uncertainty avoidance people.

CONCLUSION

In this paper, we conceptually theorize the trust formation of new website users who has different culture experience as a process model. Because risks occur in online transactions and new users typically becomes skeptical when they using unfamiliar ecommerce website, we argue that they will develop trust through multiple stages of trust before using personalization system for decision making.

There are two important contributions of this study. First of all, we theoretically assess the impact of culture to the trust formation via the usage of personalization systems. By evaluating this influence, we contribute to IS literature by showing how cultural dimensions can be moderators for trust formation via the usage of personalization systems. Secondly, we evaluate the influence of culture on each stage of trust formation to identify the potential impacts. In practice, knowing which stage is most influenced by culture could help online vendors invest more wisely in the design of personalization systems.

REFERENCES


