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ABSTRACT

This research-in-progress extends studies in online commerce adoption by proposing a behavioral model that suggests that the buyer's willingness to purchase online depends on the perceptions of the architectural quality of a website and influenced by cultural values. Building on the existing studies in e-commerce and cross-cultural research, this paper addresses the influence of cultural values at the individual level of analysis. These values include uncertainty avoidance and high- and low-context of information communication.

Keywords

Cross-cultural research, human-computer interaction, e-commerce, information asymmetry, uncertainty avoidance website design, website architectural quality

INTRODUCTION

According to eMarketer's, global B2C e-commerce sales are expected to increase by 20.1% in 2014 to reach $1.5 trillion. Growth will come primarily from the rapidly expanding user bases in emerging markets, particularly in Asia-Pacific (eMarketer 2014). E-commerce sites located in Asia are experiencing extreme growth. As an example, Alibaba, the Chinese company going for an IPO is estimated to be worth as much as $200 billion (Solomon, 2014). As e-commerce has been steadily growing in all parts of the world, the question about cultural perceptions of e-commerce sites becomes more interesting. As behavioral models do not universally hold across cultures (Srite and Karahanna, 2006), it is important to test the effect of cultural values on online user behavior.

A framework proposed by Edward Hall (1976) posits that cultures differ one from another according to their communication styles. Thus, some cultures, such as Scandinavians and Germans prefer simpler communication forms that are based on explicit statements. These cultures are described as low-context ones. Other cultures such as Japanese and Chinese, rely on implicit communication that is often transmitted verbally or physically. These cultures belong to high-context ones.

The internet is essentially a low-context medium for information communication (Wurtz, 2005) as many elements of high-context communication such as intonations and body movements are missing. In this context it is important to know if representatives of various cultures perceive information conveyed by websites differently.

This research seeks to find out the tendencies in website perceptions when moderated by cultural values. The premise of the article is that websites have certain qualities similar to architectural qualities of buildings. These qualities are evaluated differently by individuals from different cultures.

THE ARCHITECTURAL QUALITY OF WEBSITES

The architectural quality of websites has been compared to that of buildings (Kim et al. 2002). Buildings are artifacts that people construct in the physical space to provide a space for living, working or conducting business. Similarly, websites are artifacts that people build in the virtual space to provide a space for conducting business and other purposes (Kim et al. 2002).

To measure the quality of buildings, a conceptual framework has been used since the Roman architect and engineer Vitruvius introduced it to the world: firmitas, utilitas and venustas that means solid, useful and beautiful (Morgan 1914). Firmitas, or structural firmness of architecture refers to the ability of a building to protect inhabitants from external threats and internal erosions (Giedion 1941). Utilitas, or functional convenience, refers to the ability of a building to provide enough space (Giedion 1941). Venustas, or representational delight, refers to the visual pleasure that a building provides (Kim et al. 2002).

Kim et al. (2002) used the framework to evaluate websites. They created six sub constructs based on the original three architectural metrics. Thus, the structural firmness construct consisted of internal stability and external security of a website; the functional convenience construct consisted of information gathering and order processing that a website provides; and the representational delight construct was presented by a system interface and communication interface.

Valacich et al. (2007) used architectural metrics to identify three fundamental needs that have to be met in order for a website to be acceptable by online buyers. They are similar to Maslow's (1954) hierarchy of needs that posits that lower-level needs have to be satisfied first, and when they are effectively met, they become less important while higher-level needs become more important. Thus, according to Valacich et al. (2007), structural firmness represents the most basic need for online buyers. It mainly includes privacy and security of a website. If the structural firmness is not satisfactory, users will not use the website. The functional convenience is the availability of convenient features on the website such as the website's usability and ease of navigation. If the website is difficult to navigate or it does not contain useful content, the users may leave the website. Once the structural firmness and functional convenience needs of users are met, they evaluate the representational delight of the website. Representational delight is on the top of the pyramid and refers to the visual appeal of the interface. See Figure 1.

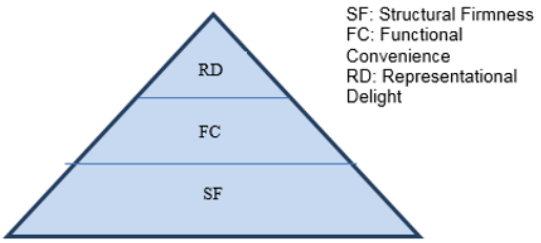

Figure 1. Online Consumer's Hierarchy of Needs (Valacich et al. 2007)

DIMENSIONS OF CROSS-CULTURAL VALUES

The majority of IS cross-cultural research compared systems in various countries to uncover differences in usage and acceptance (McCoy et al. 2005). Cross-cultural values have been studied in group decision making (Zhang et al. 2007), and self-disclosure behavior in social computing technologies such as Instant Messaging (Lowry et al. 2011).

The assumption to use national country scores is that average scores of the given country mirror the collective culture of all residents of that country (McCoy et al. 2005). Although cross-national cultural research discovers important findings, people from the same country can score differently on cultural dimensions introducing great variability across individuals. Thus, the assumption of cultural homogeneity is not appropriate for all kinds of IS research, particularly if the culture constructs are to be used to evaluate individual behavior (McCoy et al. 2005). While cultural differences can be explained on the national level, this research is motivated by individual differences among online commerce users and addresses cultural dimensions at the individual level of analysis.

CULTURE. HIGH AND LOW CONTEXT

Shared perceptions of social environments that inform a group of people of certain behaviors that are desirable or should be avoided are often referred to as culture. Culture forms the way individuals behave, communicate and interact with each other. The role of culture has been studied frequently through the comparison of two cultural dimensions – collectivism and individualism (Hofstede, 1980). Collectivistic cultures are described as family oriented with the collective goals to be dominant in shaping the behavior (Triandis, 1989), while individualistic cultures are more independent and success is determined by individual accomplishments rather than group membership (Hofstede, 1980; Srite and Karahanna, 2006).

The difference between collectivistic and individualistic cultures affects communication styles of individuals (Gudykunst et al. 1996). Hall (1976) proposed two communication styles high- and low-context communication. High-context communication is implicit and abstract. Individuals sharing this communication style do not provide information in a direct way but rely mostly on the physical or sociocultural context. Low-context communication is explicit and direct with the meanings being contained in a transmitted message. Prior research suggests that low-context communication is used mainly in individualistic cultures and high-context communication is predominant in collectivistic cultures (Gudykunst and Ting-Toomey, 1988; Gudykunst et al. 1996).

The differences in culture and communication styles may affect the way individuals interact with websites while participating in online commerce interactions. The internet is essentially a low-context medium for information communication (Wurtz, 2005) as many elements of high-context communication such as intonations and body movements are missing. Recent studies report that cultural differences influence the way individuals view the Internet. For example, respondents using mainly high-context communication style consider the Internet as a tool for social interaction, while respondents sharing low-context communication style see it as a means of getting information (Chau et al. 2002). Research in online social networks revealed that high-context communication style users of social networks tend to seek social support from their online social relationships, while low-context users mainly seek entertainment (Kim et al. 2011).

The analysis of commercial websites showed that the elements of website design differ from culture to culture (Wurtz, 2005). For example, websites created for cultures with high-context communication style tend to display more images and less text, show images of people representing family values, and animation. Websites created for low-context cultures tend to display more text, images of people on their own, and consistent layout and color schemes (Wurtz, 2005).

P1: As high/low context communication style affects the design and content of websites, we expect that this cultural value will have a moderating effect on a relationship between the representational delight and functional convenience of websites and the willingness to purchase from these websites.

UNCERTAINTY AVOIDANCE

Uncertainty avoidance reveals the extent to which individuals try to avoid uncertain situations with ambiguous outcomes by determining formal rules and rejecting unusual ideas and behaviors (McCoy et al. 2005). Proposed by Hofstede (1984), this cultural dimension refers to anxiety that is caused by unknown or uncertain situations. People who display high uncertainty avoidance try to avoid ambiguous situations by seeking stability, avoiding risks and establishing formal rules (Lee et al. 2007).

Uncertainty avoidance has a direct effect on user interactions with the Internet. For example, Lee et al. (2007) argues that high uncertainty avoidance leads mobile internet users to perceive less ease of use, usefulness, enjoyment and monetary value of mobile internet systems. Kim (2008) reports high uncertainty avoidance cultures to value transference-based trust determinants (third-party seals) more than self-perception based determinants (perceived privacy concern). Lowry et al. (2011) found a strong positive link between uncertainty avoidance and privacy concerns.

Structural firmness is a central construct of architectural quality of the website (Kim et al. 2002). Valacich et al. (2007) define structural firmness as the most critical construct for a website survival. If the structural firmness is not established, buyers may leave the website (Valacich et al. 2007), or experience transaction risks such as insecure money transfer, low quality of firewalls and other unsafe environments (Kim et al. 2002).

P2: We propose that users with lower level of uncertainty avoidance will demonstrate more caution toward the website, thus this dimension may influence their need for structural firmness.

WEBSITE SIGNALS

Another interesting avenue for the e-commerce cross-cultural research is evaluating the differences in website signal perceptions by individual users. Signals are observable characteristics of an object that can be manipulated (Spence, 1973). Signaling theory (Spence, 1973) has been applied in information economics to describe market interactions in which different parties have asymmetric information. Information asymmetry exists between transacting parties and is based on the assumption that both parties have different amounts of information regarding the transaction and have an incentive not to share all the information available to them. Information asymmetry takes place in various markets such as job markets, financial markets and some retail markets (Spence, 2002). In online retail markets, information asymmetry is characterized by the inability of the buyer to accurately evaluate the seller or product quality prior to purchase (Pavlou et al. 2007).

Signals that have been studied in e-commerce research include technological characteristics of websites, website design features as well as content and product characteristics (Fogg et al., 2001; Gregg and Walczak, 2008; Kim and Benbasat, 2006; Pavlou and Fygenson, 2006). In this study we will examine perceptions of signals that are most likely to influence perceptions of structural firmness, functional convenience and representational delight. These perceptions are based on the following signals: privacy and security signals, usability signals, and the interface signals.

RESEARCH MODEL

The research model, presented in Figure 2, integrates cultural values into the model of online buyer behavior. Website signals inform the perceptions of structural firmness, functional convenience and representational delight. These perceptions in turn influence willingness to buy. The relationship between structural firmness and willingness to buy is moderated by uncertainty avoidance, and the relationships between representational delight, functional convenience and willingness to buy are moderated by the communication style (high- or low context).

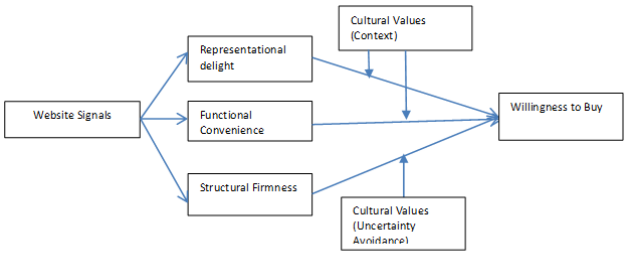

Figure 2. Research Model

CONCLUSION

This research-in-progress paper attempts to evaluate the effect of cultural values, in particular high/low context and uncertainty avoidance on the willingness to buy in e-commerce. We propose a behavioral model that suggests that the buyer's willingness to purchase online depends on the perceptions of the architectural quality of a website and influenced by cultural values. Building on the existing studies in online commerce and cross-cultural research, this paper addresses the influence of cultural values at the individual level of analysis.

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