All Is Right with the World: 
Schema Congruity and Trust Beliefs 
in B2C Electronic Commerce

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ABSTRACT

Business-to-Consumer e-commerce vendors view consumer trust as an important determinant of purchasing intent. Based on the cognitive dissonance and schema-congruity theories, this paper examines the impact of schema-congruity between the website design elements of color and typography with the product context in impacting trust. Websites perceived as compatible with subconsciously internalized belief systems and hence deemed schema-congruent by consumers are expected to engender higher levels of trust. A controlled experimental study involving 128 participants spanning eight different schema-congruency conditions was conducted. Results indicated that completely schema-congruent websites engendered higher levels of trust. Partially schema-congruent and schema-incongruent websites registered significantly lower levels of trust due to cognitive dissonance arising out of their incompatibility with consumer belief systems. The judicious selection of color and typography perceived as schema-congruent with the product context can serve to enhance consumer trust in e-commerce websites.

Keywords: Belief Systems, Cognitive Dissonance, Color, Consumer Trust, Mental Schema, Schema Congruity, Typography, Website Design

INTRODUCTION

The increasing geographical spread of the Internet has propelled e-commerce to the forefront of global economic progress, with the Business to Consumer (B2C) segment registering sales amounting to USD 1.5 trillion (Acharya & Albertini, 2014; Daugherty, 2015). Despite impressive growth, confusing, deceptive, and at times, malicious e-commerce websites have led to privacy, security, and integrity concerns among consumers. In addition, recurrent breakdown of system firewalls coupled with significant increases in fraudulent e-commerce transactions have opened up a “trust-gap” between online businesses and consumers – one that is seen as a limiting factor to the continued growth of B2C e-commerce. Hence, B2C e-commerce merchants have focused on enhancing consumer trust through web interfaces and technologies that ensure the security of online transactions and integrity of user data, however, these have not had the desired impact (Berr, 2014; Fox & Beier, 2006; Macrae, 2014; Tuenge, 2014).

Drawing on the schema-congruity and cognitive dissonance theories, this paper examines the impact of schema-congruity between the web design elements of color and typography with...
the product context in influencing consumer perceptions of trust. Schema-congruity refers to the extent of compatibility of external events with preexisting mental schema; those events or objects that are perceived as compatible may engender happiness and goodwill, resulting in trust towards that event or object. This paper argues that e-commerce websites having color, typography, and product contexts that matching preexisting mental schemas could engender trust in the consumer. Hence, the substantive research questions addressed in this paper are: “Does perceptual congruity between website design elements and preexisting mental schemas influence consumer trust in B2C e-commerce websites?” and “Does the extent of such congruity influence the level of consumer trust in B2C e-commerce websites?”

**B2C E-COMMERCE TRUST**

Trust forms one of the fundamental tenets of human existence. From a sociological perspective, trust has been theorized as:

> The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or confront that other party. (Mayer, Davis, & Schoorman, 1995, p. 712)

Researchers have adopted differing perspectives while adapting and extending this definition of trust to an e-commerce setting. For example, trust has been viewed as the intrinsic faith that consumers have in the integrity of the e-commerce merchant and the implicit belief that the merchant will not take unfair advantage or indulge in fraudulent activities. Another approach conceptualizes trust as a state of mind wherein consumers are aware of fraudulent activities and unfair practices that could be committed by the e-commerce merchant, however, they are willing to risk being subject to these injustices (Bartikowski & Singh, 2014; Chang & Fang, 2013; Cyr, 2013; Holsapple & Sasidharan, 2005; Lowry, Twyman, Pickard, Jenkins, & Bui, 2014).

Prior studies have focused primarily on the structural features of e-commerce websites that influence trust. For example, website quality, integration with online user communities, current and accurate product descriptions, and providing details relevant to the consumer have been found to enhance consumer confidence in the website. Other recommended practices include ensuring the safety, security, and integrity of online transactions through appropriate encryption technologies, incorporation of third-party certification and assurance seals, integration with independent third-party reviewers, partnerships with trusted entities, and explicit disclosure of privacy, security and compensation practices. While some of these approaches might alienate consumers in the short-term, an open and honest approach conveying respect to the consumer can result in a long-term trusting relationship built around a core of repeat buyers with locked-in purchasing intentions (Chang, Cheung, & Tang, 2013; Hong & Cho, 2011; Kimery & McCord, 2002; Lee & Turban, 2001; MacDonald, 2014).

**Human Perceptions of Color**

Color influences almost all aspects of human existence and is often a determining factor in driving our emotions, shaping our perceptions, and imparting meaning to objects and events (Baniani & Yamamoto, 2015; Barli, Akta, Bilgili, & Dane, 2012; Fortmann-Roe, 2013). The influence of color has its roots in human physiology and societal conditioning. For example, the color red stimulates the pituitary gland to secrete the fight-or-flight hormone leading to a heightened
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