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A MODEL OF SUSTAINABLE TRUST IN B2C E-MARKETS

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Abstract

Trust has been one of the most important issues in e-commerce. Therefore, there have been many studies of trust in e-commerce context. The purpose of this paper is to add additional contribution to understand what is trust in e-commerce. In this paper, first, the concept of trust is reviewed and analyzed to provide more clear understanding of trust. Second, factors that affect trust are identified. Third, a concept of sustainable trust is proposed. Finally, implications are given for practical application and further theoretical development.

Introduction

Trust has been one of the most important issues in e-commerce (e.g., Hoffman et al. 1999). Recently, therefore, there have been some efforts to understand trust in e-commerce context (e.g., Kim and Prabhakar 2000, McKnight, et al. 2000, to name a few). This paper is prepared to provide additional contribution to the line of studies of trust in e-commerce.

The purpose of this paper, first, is to clarify the concept of trust. This is necessary step to understand and study trust because in many cases trust has been confused with other concepts such as trustworthiness. Later in this paper, the two concepts will be clarified. Second, factors that affect trust are explored based on previous literature. Third, a concept of sustainable trust is proposed. Finally, implications from the model proposed in this paper will be presented.

In this paper, business-to-customer (B2C) e-markets are considered because it is promising marketplaces (Global 2001). E-markets or electronic marketplaces are defined in this paper as virtual spaces in the electronically connected global network where buyers and sellers meet to do business. Business-to-customer (B2C) e-markets are one type of e-markets where sellers are e-businesses (companies in e-markets) who provide products and/or services and buyers are final customers or consumers. The activity of buying, selling, or exchanging goods or services in e-markets is called "e-business." With theses definitions in mind, literature review is presented next.

What is Trust?

Trust has been studied in various fields including psychology, sociology, political science, economics, anthropology, history, etc. (Gambetta 1988). In the relationship marketing field, trust is one of the important concepts and defined in terms of customers' confidence in a company (e.g., Garbarino and Johnson 1999). In the organization studies, trust is defined in terms of efficiency or effectiveness within organization or between organizations. No matter what discipline, there must be a common feature of trust. In the next, the definition of trust is derived from the previous literature. In addition, the types of trust are reviewed based on previous research.

Definition of Trust

Mayer et al. (1995) distinguishes trust (trustor's intention) from trustworthiness (characteristics of trustee) and defines trust as "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 control that other party (p. 713)." This distinction between trustworthiness and trust agrees to the typology of Fishbein and Ajzen (1975), in which beliefs (or perceptions), attitudes,

intentions, and behaviors are differentiated. In other words, trustworthiness is trustor's perception that a trustee has a certain characteristics while trust is trustor's intention or willingness "to be vulnerable to the actions of another party (Mayer et al. 1995)." Based on the framework of Fishbein and Ajzen (1975), McKnight et al. (1998) also classified trust into two types: trusting beliefs (trustworthiness) and trusting intention (trust).

Following this rationale, trust in B2C e-markets is defined as customers' willingness to be vulnerable to the e-business' actions on the expectation that the e-business will perform a particular action important to the customer, irrespective of the ability to monitor or control the e-business. In addition, sustainable trust is defined as customers' trust in an e-business that may not be destroyed easily.

Types of Trust

Reviewing previous literature on trust in various fields reveals certain patterns or types of trust. Table 1 shows types of trust categorized by some researchers in social psychology (Lewis and Weigert, 1985; Lewicki and Bunker 1995), organizational study (Zucker, 1986;Shapiro et al., 1992; McAllister 1995; McKnight et al. 1998), marketing (Doney and Cannon 1997; Johnson and Grayson 2000), and MIS (Kim and Prabhakar 2000; Ratnasingham and Kumar 2000). They classified trust based on personal psychology, economics, sociology, etc. Table 1 displays reorganization of their classifications in terms of personality-based trust, environment-based trust, and process-based trust.

Table 1. Types of Trust

	Personality	**Environment**	**Process**
Lewis & Weigert (1985)			Cognitive foundation Affective foundation
Zucker (1986)	Characteristic-based	Institutional-based	Process-based
Shapiro et al. (1992)			Deterrent-based Knowledge-based Identification-based
Lewicki & Bunker (1995)			Calculus-based Knowledge-based Identification-based
McAllister (1995)			Affect-based Cognition-based*
Doney & Cannon (1997)		Transference process	Calculative process Prediction process Capability process Intentionality process
McKnight et al. (1998)	Personality-based Cognition-based*	Institution-based	Calculative-based Knowledge-based
Johnson & Grayson (2000)	Personality-based trust	Generalized trust System trust	Process-based trust
Kim & Prabhakar (2000)	Personality-based	Institution-based	Economic-based
Ratnasingham & Kumar (2000)			Competence trust Predictability trust Goodwill trust

* McKnight et al. (1998)'s cognition-based trust is different from McAllister (1995)'s cognition-based trust in that the former is about trust that is affected by cognitive cues or first impressions before interaction while the latter is based on interaction.

Trust based on personality can be explained from Rotter's work (1967). According to Rotter, an individual has tendency to trust or distrust that has been developed by the individual's early experiences. An individual's propensity to trust is usually having been formed over a long period of time that it is hard to change it. In e-commerce setting, for example, some people may not trust technology so that they may have "a propensity not to trust" anything related to technology.

In the environment-based trust, social norms (Fukuyama 1995) or social systems such as regulations (Citrin 1974) help people trust a trustee. Institutional backups such as guarantee also make people feel safe (Zucker 1986). In the e-commerce setting, governmental support or protection of the Internet would encourage people to participate in the e-markets.

Process-based trust is based on interaction (Zucker 1986). Based on the previous studies of trust, three types of process of trust building are identified: calculus-based, knowledge-based, and identification-based (Lewicki and Bunker 1995). Calculus process is based on economic foundation. In this process, a trustor evaluates cost and benefit of the relationship with a trustee (Williamson 1975, 1993). Knowledge process is based on predictability, or the information that a trustor has for a trustee (Shapiro et al. 1992). Identification process is based on "a full internalization of the other's desires and intentions (Lewicki and Bunker 1995, p. 151)." These can be considered cognition-based trust in that they are based on "cognitive process (Lewis & Wiegert, 1985)." There are also affection-based trust which is based on emotional bond or ties (Lewis & Wiegert, 1985; McAllister, 1995).

The types of trust identified from the previous literature review provide a ground from which sources or factors that affect trust can be inferred. In the next section, the types of trust will be used to identify the factors that affect trust, especially sustainable trust.

A Model of Sustainable Trust

Many researchers of trust in e-commerce touted trust as one of the most important key factors in e-commerce and recommended to "build trust on-line (Hoffman et al. 1999)." However, keeping trust is also important because trust can be destroyed (Lewicki and Bunker 1995). According to a survey by a consumer consultancy, "big brands are losing consumers' trust (Whitfield 1999)." Therefore, it is important to build "sustainable trust" that may not be destroyed easily. In the following sections, the sources of trust will be examined.

Sources of Trust

According to the literature review, there are three sources of trust construction: personality, environment, and process. Personality-based trust, or propensity-to-trust, assumes that personal tendency affects trust. This type of source may be too contingent to be managed. For example, a customer may not be willing to believe an e-business even though other conditions are satisfied. Some people just don't believe technologies. In this sense, this type of trust is uncontrollable because it is "a function of the qualities of the trusting and not the trusted (Johnson and Grayson, 2000)." On the other hand, propensity-to-trust is proposed to have significant effect on an individual's initial trust (McKnight et al. 1998). However, this type of trust could be destroyed if a customer would have bad experiences with an e-business.

Environment can affect trust construction of customers. For example, governmental support and/or protection of the Internet may encourage people to participate in e-commerce. Legal enforcement regarding security and privacy policy of the Internet may also promote people's participation. This type of trust is proposed to have the significant effect on the initial trust construction (McKnight et al. 1998). Even though it can be a background of customers' beliefs in e-commerce in general, however, this type of trust can be also destroyed if a customer has bad experiences with an e-business.

Process-based trust is closely related to sustainable trust. In other words, customers' on-going good experiences with an e-business is proposed as the source that sustains customers' trust. Process-based trust is based on interaction (Zucker 1986). Reviewing previous literature implies two broad types of process-based trust: cognition-based and affection-based. Affection-based trust "consists in an emotional bond among all those who participate in the relationship (Lewis & Weigert, 1985, p.971)." On the other hand, cognition-based trust is based on "a cognitive process which discriminates among persons and institutions that are trustworthy, distrusted, and unknown (Lewis & Weigert, 1985, p. 970)." Cognition-based trust includes calculus-based trust, identification-based trust, and knowledge-based trust.

The types of the process-based trust imply that there are four possible factors that affect trust: ability, willingness, familiarity, and affection. Table 2 lists previous literature that provides a foundation for the four constructs.

Table 2. Factors Affecting Sustainable Trust

	Ability	Willingness	Familiarity	Affection
Lewis & Wiegert (1985)	Cognitive trust			Emotional trust
Shapiro et al. (1992)	Deterrent-based	Identification-based	Knowledge-based	
Lewicki & Bunker (1995)	Calculus-based	Identification-based	Knowledge-based	
Mayer et al. (1995)	Ability	Benevolence Integrity		
McAllister (1995)	Cognitive-based			Affect-based
McKnight et al. (1998)	Competence belief	Benevolence belief Honesty belief	Predictability belief	
Ratnasingham & Kumar (2000)	Competence trust (Economic foundation)	Goodwill trust (Empathy foundation)	Predictability trust (Familiarity foundation)	

Ability dimension is based on economic foundation, or calculus based-trust theory. According to this view, customers trust based on the analysis of cost/benefit outcome (e.g., Williamson 1975, 1993). Ability of a company is the main basis of customers' evaluation. In this sense, ability could be a reasonable construct that is based on economic foundation. Mayer et al. (1995) defined ability as "group skills, competencies, and characteristics that enable a party to have influence within some specific domain (p. 717)." Based on this definition, in B2C e-markets, ability can be defined as skills, competencies and characteristics of an e-business and its Web site that enables the e-business to have influence on its customers within some specific domain.

Willingness is an e-business' intention to help customers. This is about how an e-business cares about its customers. The foundation of this dimension is identification-based trust theory. According to the theory, trust is constructed through "a full internalization of the other party's desires and intentions (Lewicki and Bunker 1995, p. 142)." This is similar to Mayer et al.'s benevolence which is defined as "the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive (p. 718)," and integrity which is defined as "the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable (p. 719)."

Familiarity is based on predictability or knowledge-based trust paradigm. According to this view, trust is built based on information gathered through interaction (Lewicki and Bunker 1995). Familiarity is a state in which a customer has information enough to trust an e-business. According to Luhmann (1988), familiarity is about understanding of other's behavior and makes it possible to predict his or herr behavior.

The three dimensions are based on customers' cognition. On the other hand, affection is also proposed to be a predictor of trust (Lewis & Wiegert, 1985; McAllister, 1995). Affection is "an emotional bond among all those who participate in the relationship (Lewis & Wiegert, 1985, p. 971)" or "emotional ties linking individuals (McAllister, 1995, p. 26)." Likeability is also the same concept as affection. Rotter (1980) also found that trustee's likeability is positively related to trustor's trust.

A Model of Sustainable Trust

Figure 1 is a simplified version of the proposed model. In this model, the four constructs affect sustainable trust. Ability is customers' perception that an e-business can perform its business well. In other words, it is about how well an e-business provides the domain services and/or products to its customers. Willingness is customers' perception that an e-business is willing to help its customers. Familiarity is customers' attitude of how much they are familiar with the e-business. Affection is customers' attitude of how much they like the e-business. Sustainable trust is customers' trust in the e-business that may not be destroyed easily. This distinction agrees to the typology of Fishbein and Ajzen (1975) where beliefs (or perceptions), attitudes, intentions and behaviors are separated. McKnight et al. (1998), in fact, classified trust into two dimensions: trusting beliefs and trusting intention, ignoring attitude dimensions (familiarity and affection in the proposed model). In the model proposed in this paper,

ability and willingness are "trusting beliefs" or trustworthiness of a company and sustainable trust is "trusting intention" or willingness of customers.

Personality factors and environmental factors are control or moderating variables. Some people just don't trust regardless of the trustworthiness of an e-business. In this case, the company does not have any other way to let them trust the company. However, if a person has positive propensity to trust, then initial trust can be easily constructed (McKnight et al. 1998). The initial trust could be a foundation upon which sustainable trust can be built.

In the same vein, environmental factors are beyond an e-business' ability. However, once it is present, it could affect initial trust (McKnight et al. 1998) which can be a basis of the sustainable trust. Technical vulnerability and hackers' attack have been the major concern in e-commerce. In this case, government-level support and protection would provide a favorable atmosphere in which customers may feel safe and/or protected.
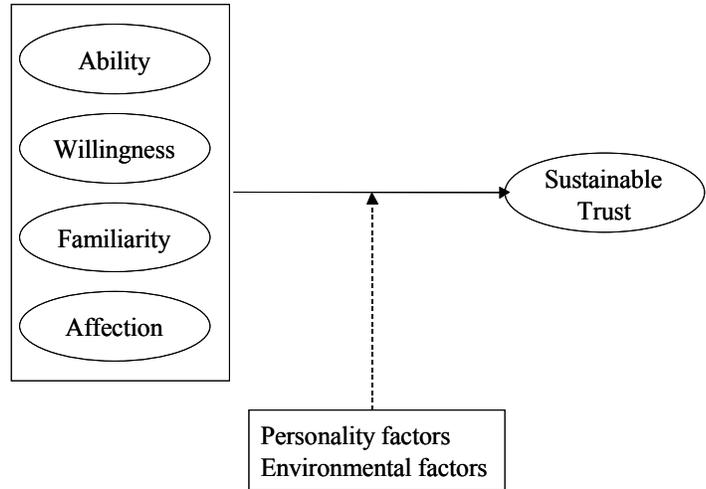

Figure 1. A Model Of Sustainable Trust

Based on the previous literature review and the proposed framework explained in the previous sections, the following propositions are presented:

Proposition 1: Ability of an e-business will lead to sustainable trust.

Proposition 2: Willingness of an e-business will lead to sustainable trust.

Proposition 3: Customers' familiarity toward an e-business will lead to sustainable trust.

Proposition 4: Customers' affection toward an e-business will lead to sustainable trust.

Proposition 5: Positive personality factors will help build initial trust which will be the basis of sustainable trust.

Proposition 6: Environmental factors, if present, will help build initial trust which will be the basis of sustainable trust.

Implications

The main focus of this paper was to provide a framework with which trust in e-commerce may be understood. Three sources of trust were identified based on previous literature: personality, environmental, and process. It is proposed that process-based trust construction is the way to sustain trust. Based on the process-based trust framework, four constructs were proposed: ability, willingness, familiarity, and affection. In addition, a model of sustainable trust is proposed.
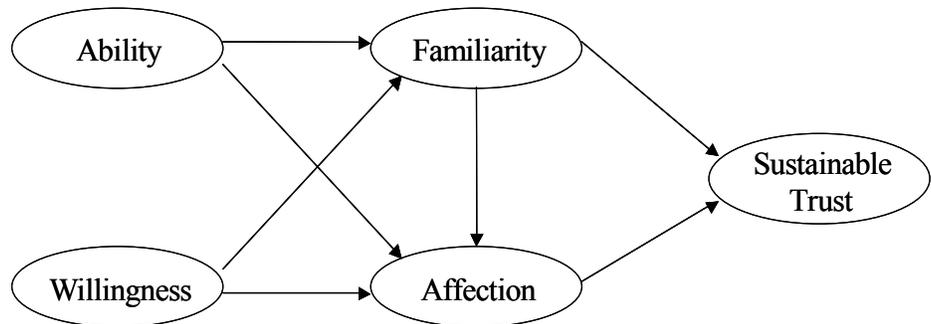

Figure 2. An Operationalized Model Based on the Framework by Fishbein and Ajzen

The model proposed in this paper may be useful to develop further theoretical studies in trust. For example, the four constructs that affect sustainable trust may be studied further. One possible framework is shown in Figure 2. It includes the four constructs and sustainable trust. It is based

on the framework by Fishbein and Ajzen (1975) where beliefs (Ability and Willingness) affect attitudes (Familiarity and Affection) that in turn affect intentions (Sustainable Trust). The additional link from Familiarity to Affection is based on Zajonc (1968) who proposed that people form more positive feelings (Affection) toward object or individuals they see often (Familiarity).

In practice, this model could be used as a manageable tool to build and/or maintain customers' trust in the company. For example, a company could assess whether customers feel the company and its Web site have ability and willingness, and how much they are familiar to and like the company.

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