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Communications of the Association for Information Systems

A DESCRIPTIVE CONTENT ANALYSIS OF TRUST-BUILDING MEASURES IN B2B ELECTRONIC MARKETPLACES

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ABSTRACT

Because business-to-business (B2B) electronic marketplaces (e-marketplaces) facilitate transactions between buyers and sellers, they strive to foster a trustworthy trading environment with a variety of trust-building measures. However, little research has been undertaken to explore trust-building measures used in B2B e-marketplaces, or to determine to what extent these measures are applied in B2B e-marketplaces and how they are applied. Based on reviews of the scholarly, trade, and professional literature on trust in electronic commerce, we identified 11 trust-building measures used to create trust in B2B e-marketplaces. Zucker's trust production theory [1986] was applied to understand how these trust-building measures will enhance participants' trust in buyers and sellers in B2B e-marketplaces or in B2B e-marketplace providers. A descriptive content analysis of 100 B2B e-marketplaces was conducted to survey the current usage of the 11 trust-building measures. Many of the trust-building measures were found to be widely used in the B2B e-marketplaces. However, although they were proven to be effective in building trust-related beliefs in online business environments, several institutional-based trust-building measures, such as escrow services, insurance and third-party assurance seals, are not widely used in B2B e-marketplaces.

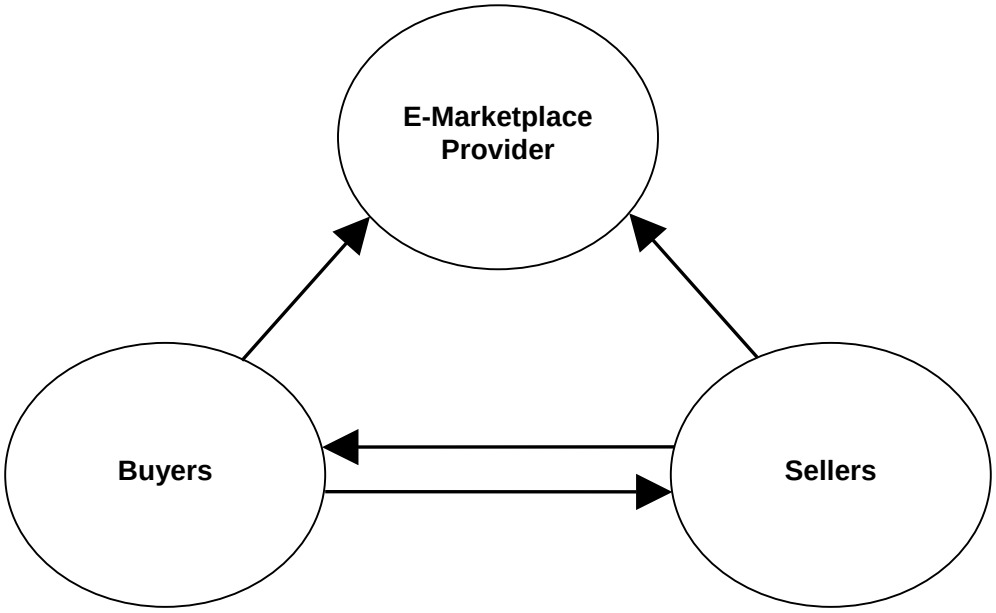
Keywords: E-commerce, trust, trust-building mechanisms, B2B e-marketplaces, content analysis

I. INTRODUCTION

Business-to-business electronic marketplaces (B2B e-marketplaces), which serve as online intermediaries to match buyers and sellers and facilitate the transactions between them [Bakos, 1998], are a major beneficiary of new net-enabled trading possibilities. However, despite earlier optimistic projections of the growth of B2B e-marketplaces [Kaplan and Sawhney, 2000], many businesses have been wary of participating in them, mainly because of the various risks associated with transactions through them. According to a survey conducted by Jupiter Media Metrix, 45% of the firms that responded indicated that lack of trust had frequently prevented them from buying goods online [Violino, 2002a].

Despite the slower-than-projected rate of adoption, B2B e-marketplaces have been gradually established as a viable option for organizational trading activities in industries such as automobiles, metals, and chemicals [Economist, 2004]. As an example, Worldwide Retail Exchange (WWRE), a B2B e-marketplace in the retail industry, has more than 60 members whose combined annual revenue is $900 billion; WWRE has saved them more than $1 billion since its founding in 2000 [Violino, 2002a]. With the impressive success of many B2B e-marketplaces like WWRE, market analyst firms, including Gartner Research and Meta Group, have predicted a renaissance of B2B e-marketplaces over the next several years [Violino, 2002a].

This article posits that trust is among the most essential factors for the successful development of B2B e-marketplaces [Pavlou, 2002]. However, the trust issues in B2B e-marketplaces are complex. Unlike other types of B2B technologies, such as electronic data interchange (EDI) and electronic procurement, B2B e-marketplaces generally aim to facilitate trading activities between two trading partners with no prior interaction. Furthermore, a trilateral relationship among buyers, sellers, and an e-marketplace provider should be considered in fostering a trustworthy trading environment (see Figure 1). Therefore, a discussion of fostering a trustworthy trading environment in B2B e-marketplaces should also recognize that such transactions often are trilateral, involving relationships among buyers, sellers, and an e-marketplace provider.



Note: The arrow indicates a trusting relationship from a trustor to a trustee.

Figure 1. Trusting Relationships in B2B E-Marketplaces

This paper is organized as follows. Section II provides the conceptual foundation of the study by discussing trust in interorganizational relationships and in B2B e-marketplaces as well as trust production modes by Zucker [1986]. In Section III, 11 specific trust-building measures used in B2B e-marketplaces are identified and described in terms of how each of them creates trust in B2B e-marketplaces. Section IV consists of a detailed description of our research methodology, and Section V contains our report of the findings on current usage of the trust-building measures. Section VI presents a detailed discussion of our findings and conclusions

II. CONCEPTUAL FOUNDATIONS AND BACKGROUND

Trust plays a crucial role in commercial relationships in which transactions pose risk or uncertainty as a matter of course. For instance, trust is considered as a key ingredient for the

successful execution of transactions in local, physical marketplaces. Likewise, trust is indispensable to transactions in electronic marketplaces in which firms simulate the trading that occurs in physical marketplaces. Regardless of where a transaction occurs, in a physical marketplace or an electronic marketplace, trust is central to the successful execution of the transaction.[1]

TRUST AND INTERORGANIZATIONAL RELATIONSHIPS

Over the past several decades, a great deal of attention has been devoted to delineate the nature of trust and its antecedents and outcomes, in various disciplines, including social psychology [Rempel et al., 1985; Rotter, 1971], sociology [Shapiro, 1987], communication [Berlo et al., 1969-1970], transaction cost economics [Williamson, 1985], organizational behavior [Mayer et al., 1995; McKnight et al., 1998; Zaheer et al., 1998; Zucker, 1986], marketing [Doney and Cannon, 1997; John, 1984; Morgan and Hunt, 1994], and information systems [Gefen et al., 2003; Hart and Saunders, 1997; McKnight et al., 2002]. No universal definition of trust exists across different research disciplines [McKnight and Chervany, 2001-2002; Rousseau et al., 1998], partly because conceptualizing a trust construct is largely influenced by the context in which a study is conducted [Palmer et al., March 2000]. For instance, trust is often viewed as one party's *willingness* to be vulnerable to the other's actions [Mayer et al., 1995]. That is, risk is presumed to be a precondition necessary for trust to matter in a relationship between two parties. It is also considered as one party's *beliefs* (a.k.a. trustworthiness) regarding trust in the other party [Bhattacherjee, 2002; Doney and Cannon, 1997; Gefen et al., 2003]. Alternatively, trust is often viewed as a high-level construct that encompasses both trusting intentions and trusting beliefs [McKnight et al., 1998]. Though not common, trust is sometimes viewed as an affective state [Rempel et al., 1985].

The literature conceptualizing trust as a belief construct proposes a multidimensional structure of trusting belief. Such a construct is described as a high-order construct that consists of conceptually distinct, but closely interrelated, dimensions. Among the various dimensions proposed for this construct, competence, integrity, and benevolence are the three central dimensions of trusting beliefs [Bhattacherjee, 2002; Gefen et al., 2003; McKnight et al., 2002]. Competence is the belief that a trusted party will behave competently. Integrity is the belief that a trusted party will honor its commitments to another party. Benevolence refers to the belief of the trusting party that the trusted party will not take advantage of it [Ba and Pavlou, 2002; Mayer et al., 1995].

Although the majority of prior studies have examined the issues related to trust within *interpersonal* relationships, scholars in several disciplines, notably marketing channel research, have recently paid attention to the notion of trust in the context of interorganizational relationships [Zaheer et al., 1998]. Trust within an interorganizational exchange relationship is described as "a firm's belief that another company will perform actions that will result in positive outcomes for the firm, as well as not take unexpected actions that would result in negative outcomes for the firm" [p. 45, Anderson and Narus, 1990]. More specifically, Morgan and Hunt [1994] described trust as one party's confidence in the reliability and integrity of an exchange partner. They also noted that the reliability and integrity of a trustworthy partner are frequently associated with attributes such as "consistent, competent, honest, fair, responsible, helpful, and benevolent."

With respect to the *outcomes* of trust in interorganizational relationships, trust provides one party with an optimistic anticipation of the behavior of another party [Hart and Saunders, 1997]. Moreover, trust is considered a key relational characteristic for building long-term relationships between organizations because it has the capability to compensate for short-term inequities that are inevitable in most modern transaction relationships [Williamson, 1985]. Trust can lead the parties within an exchange relationship to believe that over the long-term, short-term inequities

[1] We wish to thank the associate editor for suggesting this perspective on trust.

will be offset by mutual benefits. To this end, the perception of the other party's trustworthiness has the effect of safeguarding transaction-specific investments made by one party [Williamson, 1985]. Based on these qualities of trust, trust has been proposed and empirically tested as an important factor that fosters certain aspects of cooperation in interfirm transaction relationships (e.g., [Anderson and Weitz, 1989; Anderson and Narus, 1990; Dwyer et al., 1987; Joshi and Stump, 1999; Son et al., 2005; Zaheer and Venkatraman, 1994]).

MODES OF TRUST PRODUCTION

Zucker [1986] proposes three central modes of trust production: characteristic-based, institutional-based, and process-based trust. Characteristic-based trust, also known as similarity-based trust, refers to trust produced on the basis of similarities of personal characteristics between two parties, such as ethnicity, sex, or age [Zucker, 1986]. Scholars generally have viewed process-based and institutional-based trust as the two central modes by which trust can be generated in impersonal economic relationships. Likewise, a majority of recent studies conducted within the context of electronic commerce have focused on institutional-based trust [Gefen et al., 2003; McKnight et al., 2002; Pavlou, 2002; Pavlou and Gefen, 2004], or process-based trust [Jarvenpaa et al., 1999; Kim and Prabhakar, 2004]. Accordingly, this paper pays particular and detailed attention to these two modes of trust production.

Institutional-based Trust

Institutional-based trust is based upon formal societal structures [Zucker, 1986], such as professional and industry associations (e.g., certification as a professional accountant) and intermediary mechanisms (e.g., escrow services). When the required societal structures are in place, one can anticipate higher trust in future transactions with another party [Shapiro, 1987]. Institutional-based trust is considered as the most important mode of trust production for fostering transactions in an impersonal economic environment in which the parties lack familiarity and similarities [Pavlou, 2002; Zucker, 1986]. E-commerce researchers have recently paid a great deal of attention to institutional-based trust because lack of familiarity and cultural similarities are frequent characteristics of the parties in e-commerce transactions [Pavlou, 2002]. In particular, structural assurance was proposed as the most important type of institutional-based trust [Gefen et al., 2003; McKnight et al., 2002; McKnight et al., 1998].

Structural assurance refers to structural safeguards such as "guarantees, regulations, promises, legal recourse, or other procedures" that are in place to build trust among parties for successful transactions [McKnight et al., 2002]. When appropriate institutional trust-building mechanisms are in place through such structural assurances, they bind parties to trustworthy behavior and, in turn, facilitate trust-based transaction relationships with other parties [Pavlou, 2002]. Structural assurances are likely to exert the most influential role during the initial interactions of a relationship because at this point there is limited information about the other party [McKnight et al., 1998]. Most new entrants perceive e-marketplaces as high risk because of the possibility of opportunistic behaviors by other parties. Pavlou and Gefen [2004] demonstrated empirically the positive impacts of institutional-based trust through the provision of structural assurances, such as escrow services, on creating trust between sellers and buyers in Amazon's online auction marketplace.

Process-based Trust

For process-based trust to occur, a party generally needs to have experience in direct exchanges with other parties or to have obtained second-hand information about them (e.g., reputation) [Zucker, 1986]. Doney and Canon [1997] posited that trust in interorganizational relationships can be produced and affirmed through direct interactions that enable trusting parties to interpret prior outcomes better and to feel more confident in the trustworthiness of trusted parties. Furthermore, over time formal and informal communication channels are often installed in ongoing interactions. These serve to resolve disputes between trustors and trustees and thereby are able to generate mutual comfort [Parkhe, 1998]. Because this current study

focuses on the initial trust formation of potential B2B e-marketplace participants who lack direct experience with e-marketplace transaction, it does not include process-based trust from ongoing interactions as an important mode of trust production.

Process-based trust can be produced based on the reputation of other parties as well as by direct interactions with them. Reputation is "a symbolic representation of past exchange history" [Zucker, 1986]. Without past direct interactions, one can infer, based on their reputation, the likely outcome of future interactions with unfamiliar transaction partners. A party should put significant amounts of time and effort into building this social capital because a strong reputation enables future trading partners to feel more comfortable with transactions with the party [Parkhe, 1998]. Several studies conducted in the context of electronic commerce supported this assertion by empirically demonstrating that an online business's good reputation builds trust in it [Jarvenpaa et al., 1999; Kim and Prabhakar, 2004]. Since e-marketplace participants lack direct prior experience with, or firsthand knowledge of, a potential transaction partner at the initial interaction stage, second-hand information (i.e., reputation) from third parties can be expected to be important in predicting the behavior of the prospective transaction partner.

TRUST IN B2B MARKETPLACES

Recent studies on trust in e-marketplaces suggest that greater emphasis should be placed on trust toward the entire community of trading partners [Boyd, 2002; Pavlou, 2002; Pavlou and Gefen, 2004]. This one-to-many view is particularly useful to an understanding of numerous trust-building measures used in B2B e-marketplaces to attract more participants. This is because an organization's decision to participate in a B2B e-marketplace may be influenced by the perceived trustworthiness of the entire community of potential trading partners in the e-marketplaces instead of hinging on the perceived trustworthiness of a single potential trading partner. Drawing on Pavlou and Gefen [2004], we define trust in a community of trading partners in a B2B e-marketplace ("trading partner trust") as a firm's belief that participants of the e-marketplace will perform online transactions in a trustworthy manner that will benefit the firm, as well as not take unexpected actions detrimental to the firm.

Trust in the e-marketplace provider (i.e., the intermediary) is another important dimension of trust in a B2B e-marketplace [Pavlou and Gefen, 2004]. While a primary role of B2B e-marketplace providers is to build trust between buyers and sellers in the marketplace, such trust-building efforts may fail if the participants have not established trust toward the e-marketplace provider itself. The quality of services an e-marketplace provider offers is also of primary concern among the potential participants [Kollmann, 2001]. Through high-quality services, e-marketplace providers can signal that they are able to provide their services competently with positive orientation toward the participants in their e-marketplaces. Furthermore, the trust built toward an e-marketplace provider can be transferred toward the participants in the e-marketplace. Drawing on a trust-transference logic [Pavlou and Gefen, 2004; Stewart, 2003], we expect that participants who trust a B2B e-marketplace provider are also likely to trust other participants within its e-marketplace. Consequently, we incorporate trust toward a B2B e-marketplace provider ("e-marketplace provider trust") as an important dimension of e-marketplace trust and define it as a firm's belief that a B2B e-marketplace provider will serve competently, reliably and with integrity as an impartial link between buyers and sellers [Pavlou and Gefen, 2004].

III. TRUST-BUILDING MEASURES IN B2B E-MARKETPLACES

Zucker's trust production modes [1986] that were discussed earlier have guided us to identify trust-building measures used in B2B e-marketplaces. Specific trust-building measures were identified by reviewing scholarly, professional, trade literature on trust in B2B e-marketplaces. This list was then augmented by examining websites of B2B e-marketplaces in various industries that are listed in a B2B e-marketplace directory by eMarket Services (http://www.emarketservices.com). These undertakings identified a total of 11 trust-building measures. They are posited to serve as measures to build trust toward either trading partners or

Table 1: Trust-Building Measures in B2B E-Marketplaces

Trust Dimension	Trust-Building Measures	Theoretical Foundation (based on Zucker [1986])	Related Literature	Empirical Support
Trading Partners	Escrow	*Institutional-Based Trust from Structural Assurance*	[Brannigan and de Jager, 2003; Bridges, 2001; Davenport et al., 2001; Hu et al., 2001; Patton and Jøsang, 2004]	[Pavlou and Gefen, 2004]
	Monitoring of products/services		[Davenport et al., 2001; Lee, 1998; Pavlou, 2002; Wilson, 2000]	[Pavlou, 2002]
	Insurance		[Bridges, 2001; Davenport et al., 2001; Hicks, 2001; Moozakis, 2000; Tang et al., 2003; Zucker, 1986]	[Tang et al., 2003]
	Establishment of cooperative norms		[Bridges, 2001; Patton and Jøsang, 2004; Pavlou, 2002; Shneiderman, 2000]	[Pavlou, 2002]
	Member screening		[Davenport et al., 2001; Pavlou, 2002; Violino, 2002b]	
	Reputation systems	*Process-Based Trust from Reputation Effects*	[Ba and Pavlou, 2002; Bridges, 2001; Dellarocas, 2003; Patton and Jøsang, 2004; Shneiderman, 2000]	[Ba and Pavlou, 2002; Pavlou, 2002; Pavlou and Gefen, 2004]
Marketplace Provider Trust	Third-party assurance seals	*Institutional-Based Trust from Structural Assurance*	[Cook and Luo, 2003; Kovar et al., 2000; Luo and Najdawi, 2004; McKnight and Chervany, 2001-2002; Noteberg et al., 2003; Pennington et al., 2003; Shneiderman, 2000]	[Kovar et al., 2000]
	Privacy policy		[Culnan and Armstrong, 1999; Malhotra et al., 2004; Shneiderman, 2000]	
	Affiliation with respected organizations	*Process-Based Trust from Reputation Effects*	[Luo and Najdawi, 2004; Stewart, 2003]	
	Disclosing e-marketplace profile			
	- Disclosing e-marketplace longevity		[Katos, 2001; Shneiderman, 2000]	
	- Disclosing e-marketplace size		[Jarvenpaa et al., 1999]	[Jarvenpaa et al., 1999]
	- Disclosing management team profile		[Bassuck et al., 2001; Shneiderman, 2000]	
	Disclosing past performance			
	- Testimonials from current participants		[Lim et al., 2001; Shneiderman, 2000]	
	- Displaying awards earned		[Fogg et al., 2002]	
	- Excerpts from news media outlets		[Berlo et al., 1969-1970; Pennington et al., 2003]	[Pennington et al., 2003]
	- Disclosing well-known participants		[Bassuck et al., 2001; Fogg et al., 2002]	

e-marketplace providers. We classified these 11 trust-building measures into two major categories proposed by Zucker [1986]: institutional-based trust (structural assurance) and process-based trust (reputation effects). Table 1 lists the 11 measures, their theoretical foundations, and their supporting literature.

TRADING PARTNER TRUST-BUILDING MEASURES

Institutional-Based Trust from Structural Assurance

Escrow. In escrow services, a neutral third-party holds payment until the buyer receives and accepts the goods [Brannigan and de Jager, 2003; Patton and Jøsang, 2004]. Use of escrow services can protect both buyers and sellers from default by either party to a transaction, and it guarantees the expected outcome of a transaction [Hu et al., 2001]. Buyers benefit through using the escrow services because their funds are not transferred until they are satisfied with the quality of the goods received; sellers benefit simultaneously because they are protected against the uncertainty associated with getting paid, which involves not only the possibility of nonpayment but also such risks as the use of fraudulent credit cards. Furthermore, when a buyer is not satisfied with a product and returns it to the seller, the seller may request an escrow service provider to hold the payment until the returned product is inspected. Pavlou and Gefen [2004] recently offered empirical evidence on the role of escrow services in creating buyer trust in the community of sellers in Amazon's online auction marketplace.

Monitoring of Products/Services Traded. In the context of B2B e-marketplaces, monitoring generally refers to "an institutional measure undertaken by the marketplace's management to supervise all transactions by scrutinizing economic activity and conveying sanctions to wrongdoing" [Pavlou, 2002]. The institutional mechanism of monitoring is often used to reduce uncertainty associated with the quality of products transacted in the e-marketplace. This uncertainty exists because buyers cannot inspect the quality of products before purchasing them. This inability to inspect is among the most serious impediments to the development of B2B e-marketplaces [Wilson, 2000]. Mechanisms to monitor products and services currently exist in several forms. They include product appraisal, product inspection, product guarantee and warranty, and product review and rating. As an example, AUCNET, an electronic used-car auction marketplace for dealers in Japan, instituted a rigorous car inspection process so as to avoid buying "lemons" [Lee, 1998].

Insurance. A party can use insurance to signal to the other party that it behaves in a responsible manner and that everything "reasonable" has been undertaken to protect the other party from loss [Zucker, 1986]. Use of insurance enables exchange partners to quantify and minimize a variety of uncertainties associated with their transactions. Moreover, the use of insurance will foster trust because its use will lead one party to believe that the other party cares for it (i.e., benevolence). The role of insurance in minimizing transaction risks and creating trust is considered even more important in the context of B2B e-marketplaces because the transactions are often made between parties that are not familiar with each other. As e-marketplaces became popular, several insurers, including AIG (American International Group) that has teamed up with Dun and Bradstreet (a credit authorization company), have introduced various types of insurance services to e-marketplaces [Hicks, 2001; Moozakis, 2000].

Establishment of Cooperative Norms. Norms are expected patterns of behavior and can be applied to different levels, such as groups of individuals, individual firms, or particular industries [Dwyer et al., 1987]. Cooperative norms in an exchange relationship between organizations refer to the values, standards, and principles to which an organization adheres in its transactions with the others within a population of the organizations to which it belongs. [Pavlou, 2002]. As trading partners establish and adopt cooperative norms, each party will feel comfortable about transactions with others because of fewer concerns about potential opportunistic behaviors of the other. Consequently, when successfully established and adopted by the participating organizations, cooperative norms are expected to play a key role in building a successful B2B e-marketplace. Three specific types of information are often disclosed on the website to effectively

communicate cooperative norms to participating organizations. These three are expected transaction patterns, ethical codes of conduct, and dispute resolution mechanisms.

Member Screening. Member screening is often undertaken by e-marketplace management so as to control the qualifications for participation and to reassure organizations that are dealing with unfamiliar trading partners. Accreditation procedures in online marketplaces, such as eBay's, which verify the ability of sellers to perform as expected before their initial participation, is considered to play an important role in fostering trust [Pavlou, 2002]. Member screening mechanisms provide sound structural assurance that may shape potential participants' confidence in the competence of existing participants, and vice versa. Credit checks are a popular method for screening out unqualified participants in B2B e-marketplaces as well as in traditional B2B exchange relationships. Several B2B e-marketplaces have instituted more stringent policies on participation. For instance, to join Trade-Ranger (a B2B e-marketplace in the energy and petrochemical industries), suppliers are generally required to be recommended or nominated by oil company buyers [Violino, 2002b].

Process-Based Trust from Reputation Effects

Reputation Systems. Reputation systems have been successfully used in Internet-based consumer-to-consumer (C2C) marketplaces as an effective trust-building mechanism. As an example, feedback forums, such as eBay's, have contributed to successful development of an online auction marketplace by discouraging dishonest and opportunistic behavior of buyers and sellers. Ba and Pavlou [2002] empirically showed that feedback mechanisms can effectively create a buyer's trust in a seller's credibility even without previous interaction. In turn, this increases the buyer's willingness to pay price premiums for products from that seller. Similarly, prospective participants in B2B e-marketplaces are expected to value recommendations and opinions from existing participants or independent third-parties. When feedback mechanisms are in place in a B2B e-marketplace, the buyers are able to form their trust in the sellers' credibility and benevolence even in the absence of transaction histories [Pavlou, 2002].

MARKETPLACE PROVIDER TRUST-BUILDING MEASURES

Institutional-Based Trust from Structural Assurance

Third-Party Assurance Seals. Third-party assurance seals enable individuals or organizations to form trusting beliefs (e.g., integrity, competence, and benevolence) in online businesses with no or little previous interaction [McKnight and Chervany, 2001-2002]. The effectiveness of third-party seals as a trust-building measure varies, depending on a party's familiarity with seal of approval programs and the party's attention to the seals on the website of an online business. Empirical findings are generally supportive of the assertion that third-party seals create trusting beliefs and intentions (e.g., making online transactions) [Kim and Benbasat, 2003]. Several "seal of approval" programs (e.g., BBBonline, TRUSTe, Verisign, and WebTrust) are in place for online businesses and primarily focus on privacy or security. The nature of the seal influences what specific types of trusting beliefs will be formed among visitors of an online business [McKnight and Chervany, 2001-2002].

Privacy Policy. Because information stored in an electronic format can be easily edited, copied, and transmitted, whether or not online businesses will properly handle sensitive information about their customers is of major concern to Internet users. To alleviate this concern, online businesses frequently display their privacy policy so as to convince visitors of their fair information practices by explicitly stating what information will be collected and how it will be used, how safely the information will be stored, and with whom the information will be shared. When Internet users are told explicitly that fair information practices are employed, it is likely that their privacy concerns will be adequately addressed [Culnan and Armstrong, 1999], and that their trusting beliefs will increase.

Process-Based Trust from Reputation Effects

Affiliation with Respected Organizations. Trust built in an organization may be transferred to another party when a close association has been established between the two organizations, e.g., by providing a hyperlink from one organization's website to another that is trusted [Stewart, 2003]. This trust-transfer mechanism can also apply to B2B e-marketplaces. Potential participants of a B2B e-marketplace are expected to form their trusting beliefs in the e-marketplace when an e-marketplace is affiliated with respected organizations or is a qualified member of professional/industrial associations and clearly displays this information on its website. Affiliation with respected organizations is expected to be particularly important for e-marketplace providers in the early growth stage in which they are unlikely to have built a reputation among the potential participants.

Disclosing E-Marketplace Profile. Potential participants of an e-marketplace may be particularly concerned about whether or not the e-marketplace has already been established as a viable marketplace in their industry and whether this viability will continue. An e-marketplace can alleviate this concern to some extent by disclosing certain of its characteristics. One approach is to disclose the longevity (history) of the e-marketplace. In addition, when a B2B e-marketplace reaches a certain threshold in its transaction volume or in its number of participants, disclosing this transaction volume or membership number on its website is considered an effective strategy to alleviate concern about business's viability. Finally, e-marketplaces may disclose the profile of their management team on their website so that prospective participants can identify who initiated and manages the e-marketplace. For most potential participants who lack experience in transactions via a B2B e-marketplace, disclosing such characteristics of an e-marketplace on its website may be used as cues to establish an e-marketplace's reputability, stability, and viability.

Disclosing Past Performance. Given that most B2B e-marketplaces do not have long operational histories, it is unlikely that the reputation of an e-marketplace has already been established through "word-of-mouth" communication among the members of a trading community. To this end, an e-marketplace often needs to build its reputation directly with its prospective participants by disclosing several types of information that can assist prospects in gauging its past performance. Used as a proxy for the lack of a widespread reputation, an e-marketplace can use information to gain the trust of its prospective participants who have no experience in transactions via the B2B e-marketplace.

To communicate and verify their past performance, e-marketplaces often post on their websites testimonials (e.g., recommendations and opinions) from current participants. This is analogous to displaying testimonials from satisfied customers in the B2C e-commerce, a practice that was found to increase potential customers' trust in online stores [Lim et al., 2001]. The impact of testimonials is expected to be greater when they are provided by well-known organizations in an industry. Second, an e-marketplace in its early stage may obtain an award from well-known and highly respected organizations (e.g., an industry association, authentic third-party organization, etc.) and post the award on its website [Fogg et al., 2002]. Third, published evidence about the performance of an unknown e-marketplace can assist in fostering trust among potential participants and securing their participation. Excerpts from articles in newspapers or magazines that mention the e-marketplace favorably (e.g., growth, participants' experiences, formation of strategic affiliations or alliances, or infusions of investment capital) are often displayed on the website of a B2B e-marketplace. Depending on the nature of the information, these excerpts may be able to foster different aspects of trusting beliefs (i.e., competence, integrity, benevolence) about an e-marketplace. An e-marketplace can also announce favorable information itself by making it available on its website. However, considering that acceptance of a message is mainly affected by the credibility of the source [Berlo et al., 1969-1970], providing the information through a credible third-party is likely to be more effective. Finally, disclosing a list of well-known corporate customers on the website of an online business is found to increase the degree of trust others have for it [Fogg et al., 2002]. When well-known organizations participate in a B2B e-marketplace, potential participants may gain confidence that various trust-related issues have been addressed adequately enough to bring them into the e-marketplaces.

IV. METHOD

Based on the 11 trust-building measures identified and discussed above, a content analysis of the websites of 100 B2B e-marketplaces was conducted to examine to what extent and how each of the trust-building measures has been applied. Content analysis is a useful technique in examining the presence of certain concepts within a message [Neuendorf, 2001].

A B2B e-marketplace directory provided by eMarket Services (www.emarketservices.com) was used to obtain a sample frame for the analysis. The directory listed 323 B2B e-marketplaces based in North America in October 2003 when we started sampling B2B e-marketplaces for this study. Out of the 323 e-marketplaces, 100 e-marketplaces in 24 industries were randomly selected. (See Appendix A for the list of B2B e-marketplaces and industries represented). Data collection based on a content analysis approach was conducted between October 2003 and January 2004.

A coding scheme was developed and pretested by using 20 B2B e-marketplaces randomly selected from the 100 e-marketplaces in our sample. After some minor modifications based on the pretest, the final version of the coding scheme was developed. The main body of the coding scheme consisted of two main sections: Section A contained guidelines with detailed explanations of the terminology used in Section B, which contained the actual coding sheet to indicate the availability of each trust-building measure. The coding scheme is presented in Appendix B.

Great care was taken to determine who would be appropriate as coders, how many coders would be necessary, and how to train them before the start of actual coding [Krippendorff, 2004]. Based on their familiarity with the study context [Krippendorff, 2004], we chose as potential coders two graduate students majoring in Management Information Systems at a business school. The two coders received a training session before they began actual coding with the e-marketplaces in our sample. In the training session, they practiced coding with five e-marketplaces (not included in our main sample) until they were comfortable with using the coding sheet for actual coding. They were allowed to ask any questions during the practice session. After the practice session, we felt assured that the coders would be comfortable and competent with actual coding in the next round. Moreover, the practice coding session suggested that two coders would be sufficient because they were able to identify all of the trust-building mechanisms under investigation on the e-marketplace websites.

Following the practice coding, the two coders conducted actual coding by independently examining the 100 B2B e-marketplaces in our sample. General background information (name, URL, industry, etc.) on each B2B e-marketplace in the sample was given to each coder. It took approximately two to three hours for a coder to examine a B2B e-marketplace website. After coding was completed, two coders met to resolve any discrepancies between their observations because they might have missed certain trust-building mechanisms due to coder fatigue [Neuendorf, 2001].

We calculated inter-coder reliability (ICR) scores using Cohen's *kappa* statistic [1960], the most commonly used inter-coder reliability coefficient [Perreault and Leigh, 1989; Zwick, 1988]. Cohen's kappa was measured based on the coding of the two coders *prior to* resolving their discrepancies. For *each* of the 29 questions (such as, "does the e-marketplace have a privacy policy?") a kappa score was calculated based on the agreement (agreed or not) of the codes assigned by the two coders to each of the 100 e-marketplaces. The level of agreement was found to be *very good* for 14 questions, with *kappa* scores above .81, and *good* for eight questions, with *kappa* scores between .61 and .80. The remaining seven questions showed a *moderate* agreement level, with *kappa* scores between .41 and .60. Although no widely accepted standards exist [Krippendorff, 2004; Neuendorf, 2001], the level of agreement was found to be satisfactory for all the questions based on the rules of thumb found in the literature (e.g.,

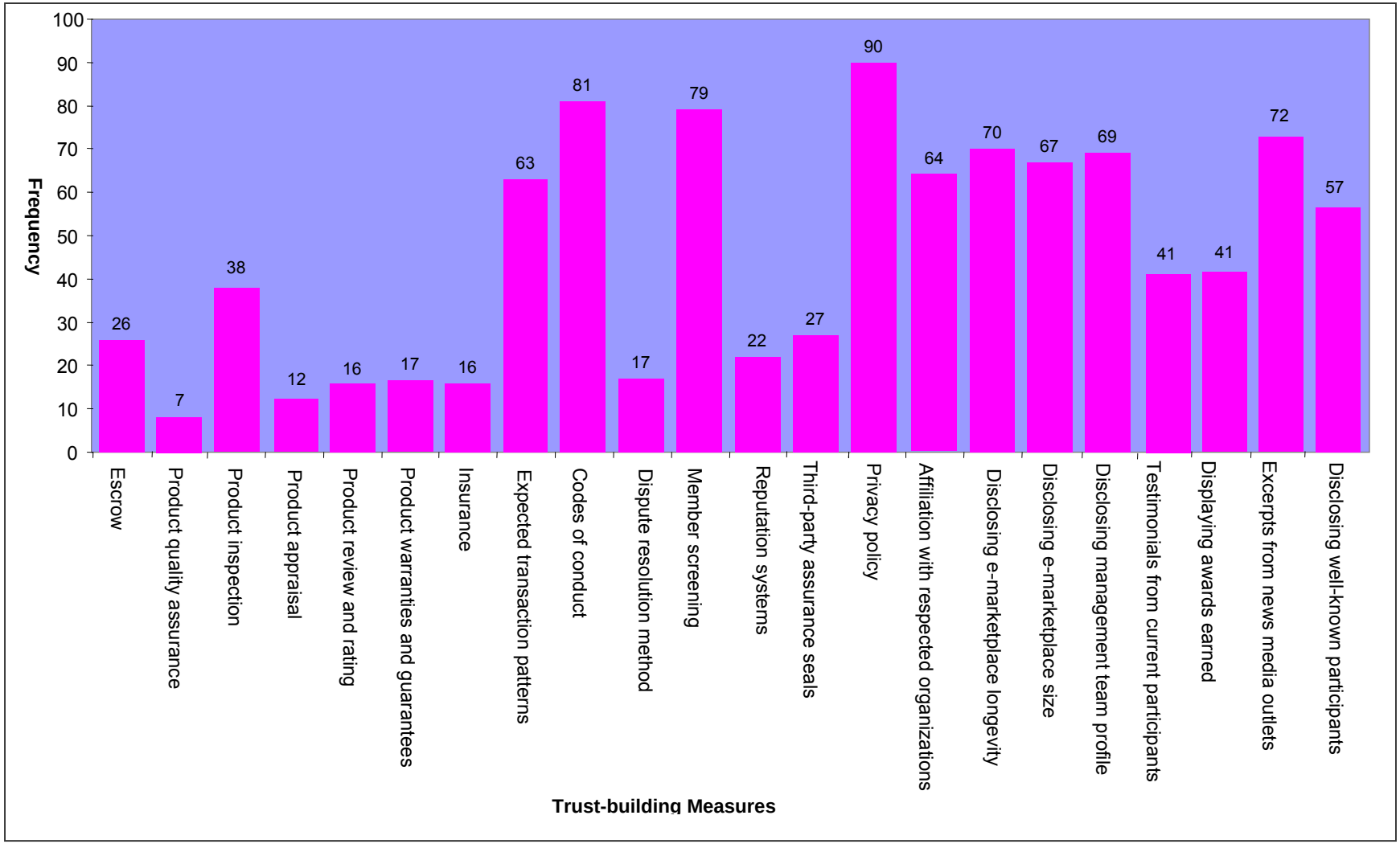


Figure 2: Use of Trust-Building Measures in B2B E-Marketplaces

[Banerjee, 1999; Frey et al., 2000]).[2] Subsequently, we concluded that discrepancies between the two coders' observations are not a serious concern.

V. FINDINGS

TRADING PARTNER TRUST

Institutional-Based Trust from Structural Assurance

Escrow. Only 26% of the B2B e-marketplaces in the sample were found to require participating buyers and sellers to use escrow services for transactionsmade through their e-marketplaces (see Figure 2). Some B2B e-marketplaces themselves served as an escrow agent. They provided an escrow account in which a buyer's payment was held until it was transferred to a seller upon the buyer's verification of products. Other B2B e-marketplaces designated a third-party escrow agent, such as an accredited bank or financial institution trust, or offered a list of pre-approved escrow agents from which sellers could choose. Traditional escrow services, like letters of credit (LC), were still used in some B2B e-marketplaces.

Monitoring of Products/Services Traded. Fifty-four percent of the e-marketplaces were found to apply at least one type of product monitoring mechanism. (A) Seven percent of the e-marketplaces offered product quality assurance services. They claimed that they maintain full quality control on all products traded in their e-marketplace, either during production or at the time of shipment, through an ISO 9001 or ISO 9002 test center. (B) Thirty-eight percent of the e-marketplaces offered product inspection services. Product inspection services were found to be popular for manufacturing inputs (e.g., raw material), machinery, or equipment. (C) Product appraisal services, which assess the price or value of products traded, were provided in 12% of the e-marketplaces. Product appraisals are generally used in B2B e-marketplaces in which product characteristics are complex and not amenable to standard pricing methods, including sales of artwork, used equipment, or property. (D) Product review and rating services were available in 16% of the e-marketplaces. While product appraisals are designed to assess price or value of a product, product reviews and ratings focus on the evaluation of the performance or quality of a product. For instance, a product's performance or quality may be rated at a particular level (e.g., excellent, good, or poor). Lastly, (E) product warranties and guarantees were provided in 17% of the e-marketplaces. Sellers were often required to provide warranties for products they sell through B2B e-marketplaces. B2B e-marketplaces themselves often provided product guarantees to ensure the satisfaction of buyers participating in their e-marketplaces.

Insurance. Only 16% of B2B e-marketplaces provided insurance services. Cargo insurance was often arranged through a designated company for products lost or damaged in transit. On the other hand, fraud protection insurance was usually used to protect sellers against any fault or negligence by buyers in paying for products or services. In B2B e-marketplaces established for trading financial products, insurance was often used to protect trading parties from unexpected factors such as changes in currency exchange rates over the course of the transaction. Finally, when B2B e-marketplaces were required to take delivery and hold products for inspection before being delivered to buyers, the e-marketplaces often insured such products while they were under their control.

Establishment of Cooperative Norms. Eighty-five percent of the B2B e-marketplaces explicitly stated their cooperative norms on their website: 63% provided potential participants with detailed information about the conduct of transactions. Typical information contained on websites ranged

[2] Banerjee [1988] proposed guidelines for acceptable *kappa* scores as follows: *kappa* scores above .75 indicate excellent agreement beyond chance; and .40 to .75, fair to good agreement beyond chance. Frey et al. [2000] suggested .70 or greater as the criterion for the agreement to be considered reliable.

from pre-transaction preparation, including membership registration, to procedures for bidding, request for proposals (RFP), and request for quote (RFP) to financial and logistic settlement, such as payment methods, tax calculations, and shipping and delivery requirements. Some B2B e-marketplaces provided policies for product returns, inspection, or warranties that buyers and sellers should adopt for transactions. Eighty-one percent of the B2B e-marketplaces specified codes of conduct for participants. In general, codes of conduct contained information regarding confidentiality, prohibition of unlawful and dishonest behavior, and detailed regulations prohibiting the manipulation of product information. Only 17% provided dispute resolution mechanisms for participants. These policies often specified dispute resolution methods, such as mediation, arbitration, or litigation that disputing parties could utilize. Several B2B e-marketplaces indicated that they would take sides in disputes between their participants.

Member Screening. Seventy-nine percent of the B2B e-marketplaces screened applications for membership. Until their applications were reviewed and approved, organizations were not permitted to participate. Credit checking was found to be the most popular form of member screening. An established reputation within an industry, such as status as an OEM (original equipment manufacturer), was often used as a membership screening method.

Process-Based Trust from Reputation Effects

Reputation Systems. Reputation systems were found in 22% of the B2B e-marketplaces: 13% used peer ratings in which a party to a transaction is allowed upon completion of a transaction to share its opinion of the trading experience with other participants in the e-marketplace. Some e-marketplaces themselves (12%) rated the performance of the buyers and sellers, based on their transaction histories, and made this rating available to marketplace participants to assist them in choosing trustworthy transaction partners or in determining a final bidding price.

MARKETPLACE PROVIDER TRUST

Institutional-Based Trust from Structural Assurance

Third-Party Assurance Seals. Twenty-seven percent of the B2B e-marketplaces displayed trusted third-party assurance seals to foster trust in the e-marketplaces. While the Verisign seal (13%) was the most popular, 14 other types of seal programs were also used. They include BBB Online, TRUSTe, WebTrust, GeoTrust, THAWTE, and UCCNET. Different seals appear to build different dimensions of trusting beliefs regarding a B2B e-marketplace because these seal programs vary in terms of their focus and reputation [Cook and Luo 2003]. For example, the Verisign seal is used mainly to assure potential participants of a B2B e-marketplace's ability to securely transmit and store sensitive information about their participants. A B2B e-marketplace can obtain a TRUSTe seal when its privacy policy is in compliance with industry standards, and thereby demonstrate its good faith in facilitating transactions between buyers and sellers.

Privacy Policy. Ninety percent of the B2B e-marketplaces explicitly stated their privacy policy. Based on the privacy policy statements being displayed, many B2B e-marketplaces appeared to adhere to the core principles (i.e., notice, choice, access, and security) of privacy protection that were developed for online businesses by the United States Federal Trade Commission. Unlike in the context of B2C online businesses which mainly deal with individual customers, the privacy policies of B2B e-marketplaces generally strive to convince participants that information about both the individuals and their firms will be properly handled.

Process-Based Trust from Reputation Effects

Affiliation with Respected Organizations. Sixty-four percent of the B2B e-marketplaces had several forms of strategic affiliation programs with respected organizations with an expectation that their reputations for trustworthiness would transfer to the e-marketplaces. B2B e-marketplaces often advertised on their website that they established a partnership program with major players in their industry. Furthermore, some e-marketplaces had been established by well-known companies in an industry (i.e., consortia-based e-marketplaces), and have kept strategic

partnerships with the companies. Lastly, other B2B e-marketplaces often advertised that they are affiliated with an industry association, other well-known B2B e-marketplaces, or an industry-specific publication.

Disclosing E-Marketplace Profile. Seventy percent of the B2B e-marketplaces disclosed how long their online business has been in operation. Except for those begun as bulletin board sites in the early or mid-1990s, most were initiated during the dot-com era. Some B2B e-marketplaces had offline business histories before opening e-marketplaces. Unsurprisingly, these B2B e-marketplaces emphasized their offline business histories to demonstrate their presumed extensive knowledge and experience in a specific industry.

Sixty-seven percent of the B2B e-marketplaces disclosed their size on their websites, usually in terms of the number of registered users or organizations and/or the total transaction volume of the products traded through the e-marketplaces. However, it appeared that disclosing the size of a B2B e-marketplace as a trust-building measure did not apply to some B2B e-marketplaces, presumably because only B2B e-marketplaces with a relatively large size benefit from such disclosure.

Sixty-nine percent of the B2B e-marketplaces disclosed the profiles of their management team on their websites. These profiles usually presented management team members' position, pictures, educational background, work experience, and special contributions to the e-marketplace. Particular emphasis was placed on management team members' possession of domain-specific knowledge regarding an industry. It appears that the profiles mainly aim to assure potential participants of the competence of B2B e-marketplaces to facilitate transactions between buyers and sellers within a specific industry.

Disclosing Past Performance. Forty-one percent of the B2B e-marketplaces displayed testimonials from their current participants. The testimonials are usually as references or endorsements for the specific e-marketplace and typically described various types of benefits from buying or selling products/services through the e-marketplace, and emphasizing the caring and support of the staff. To enhance the credibility of these testimonials, B2B e-marketplaces often provided pictures and contact information for persons who provided the testimonials.

Forty-one percent of the B2B e-marketplaces displayed awards that they had won. These awards were usually given by government agencies, industry associations, universities, or commercial organizations. Several B2B e-marketplaces advertised that they had successfully received a grant from a government agency for the successful development of e-marketplaces. B2B e-marketplaces often revealed that their founder had received awards (e.g., an entrepreneurship award) from a respected organization such as a university or industry association. Awards from well-known commercial organizations, such as "The Best B2B Website Award" by Forbes, and "the most popular B2B website" by Yahoo, were often found.

Seventy-two percent of the B2B e-marketplaces provided excerpts of favorable mentions or articles from popular media outlets such as newspapers, magazines, or newsletters. Many B2B e-marketplaces had a web page named "News," "News and Community," or "Press Room" that could be accessed directly from the main page of their website. These web pages appeared to be continuously updated to include the most recent favorable mentions or articles.

Fifty-seven percent of the B2B e-marketplaces disclosed the names of their participants who are well-known. Most of the e-marketplaces displayed the names and logos of several well-known participants on the main page of their website. Some B2B e-marketplaces that had numerous well-known participants in an industry had a separate web page to list all or part of the participants so that potential participants could appraise their membership.

VI. DISCUSSION AND CONCLUSIONS

IMPLICATIONS OF FINDINGS

Member screening (79%) is used in B2B e-marketplaces as a popular method of providing a secure transaction environment. Of course, having a large number of participants is critical to the success of B2B e-marketplaces. However, many e-marketplaces adopted a stringent screening policy, which may limit their ability to add more participants quickly. These e-marketplaces have focused more on building a secure e-marketplace with only trustworthy participants, similar to "gated residential communities" (Violino 2002b).

Escrow services have not been widely adopted by B2B e-marketplaces despite their importance as an institutional-based trust production method in B2B e-marketplaces, a role that was empirically supported by prior work (Pavlou and Gefen 2004). In C2C e-marketplaces such as eBay, escrow services are recommended for transactions of more than $500. Considering that the average amount of a transaction in B2B e-marketplaces usually is much greater than the amount in C2C e-marketplaces, it is likely that buyers and sellers in B2B e-marketplaces would like to have added protection of escrow services. Similarly, insurance is not widely used by B2B e-marketplaces. The general absence of these services from e-marketplaces was unexpected and somewhat disappointing because lack of mutual trust has been recognized as a major barrier to the widespread adoption of B2B e-marketplaces [Violino 2002a]. It appears that many B2B e-marketplaces still need to provide more institutional-based methods of building trust.

Although reputation systems have been established as an important trust-building mechanism in C2C e-marketplaces such as eBay and Amazon.com, they were not found to be widely applied in B2B e-marketplaces (22%). The low usage of reputation systems could suggest that B2B e-marketplaces have not paid due attention in this important trust-building mechanism. However, given that only organizations verified through stringent member screening methods are allowed to trade via the majority of B2B e-marketplaces, it appears that reputation systems have little role to play as a method of assessing the trustworthiness of potential trading partners.

To build potential participants' trust-related beliefs toward e-marketplace providers, several types of institutional-based and process-based trust building mechanisms are currently used in B2B e-marketplaces. They can offer institutional assurances through setting up a privacy policy they will adhere to, and/or obtaining an assurance seal from a trusted third-party. Indeed 90% of B2B e-marketplaces clearly communicated their privacy policy to their potential participants. However, third-party assurance seals (27%) were uncommon in B2B e-marketplaces. The low usage of third-party assurance seals could suggest that they are not as effective as the assurance seals in other online trading environments (e.g., B2C e-commerce). Otherwise, this result deserves particular attention among the many B2B e-marketplaces that have not attained an assurance seal. Depending on the specific trust-related beliefs they will focus on, B2B e-marketplaces should choose an appropriate assurance seal program and participate voluntarily in the seal program.

Finally, as a B2B e-marketplace builds a strong reputation, potential participants with no experience of marketplace transactions may become comfortable with participation in the e-marketplace. A B2B e-marketplace demonstrates its reputation in several ways. For instance, it can actively advertise its strategic partnerships with well-known organizations, disclose its profile, provide testimonials from current participants, and display awards from a respected third-party, etc. Many e-marketplaces are making considerable efforts, using such tactics as the above and disclosing as well information about their business histories and management teams, to convince potential participants of their respectability and of their existence as real organizations that can satisfy the expectations of their participants. Providing excerpts from favorable mentions or articles in news media outlets was a popular tactic (72%), but testimonials by current participants (41%) and disclosures of well-known participants (57%) were less popular. A potential participant's decision to join a B2B e-marketplace is largely influenced by (1) who is currently participating in the e-marketplace, and (2) the extent of benefits to be gained from participation

[Son and Benbasat, 2004]. Consequently, disclosure on the website of a B2B e-marketplace of these two pieces of information can be expected to not only foster potential participants' trust-related beliefs toward the e-marketplace, but also to strongly influence their decision to join the e-marketplace.

CONCLUDING REMARKS

The notion of trust has been an important subject for researchers for a very long time and goes back even to the rhetoric of Aristotle more than 2,000 years ago that suggested how a speaker can build credibility among listeners [Mayer et al., 1995]. Trust is crucial to the success of interpersonal and interorganizational relationships in which risk or uncertainty exists during interaction between parties. For example, trust was considered a fundamental lubricant of transactions between buyers and sellers. This is especially the case for B2B e-marketplaces in which transactions occur in a virtual marketplace between parties who are not required to meet each other face-to-face. Consequently, creators of B2B e-marketplace need to ensure that necessary trust-building mechanisms are in place.

New participants in a B2B e-marketplace may encounter a variety of trust-building measures. Once they decide to join, they may be required to go through a stringent screening process to become a qualified member of the e-marketplace. They are often required to sign a member agreement and are legally bound by codes of conduct in the e-marketplace. Once they are involved in a transaction through the B2B e-marketplace, several institutional-based trust-building measures (e.g., escrow services, monitoring of products/services, and insurance) can minimize potential disputes with the other party. When a dispute arises with the other party, they can seek arbitration or mediation to resolve the dispute as specified by the e-marketplace.

In this exploratory study, we identified a total of 11 trust-building measures that are available to build trust-related beliefs of potential participants in B2B e-marketplaces. Subsequently, based on a content analysis of websites of 100 B2B e-marketplaces, we examined how each of the trust-building measures was applied in B2B e-marketplaces. Most of the trust-building measures appeared to be widely adopted in B2B e-marketplaces. For instance, the majority of B2B e-marketplaces adopted a stringent member screening policy. However, several institutional-based trust-building measures — such as escrow services, insurance, and third-party assurance seals — and process-based trust-building measures, such as reputation systems, are used much less extensively, which was an unexpected result of this research. Since many of these lesser-used measures rest on well-known theories or trust formation and empirical research has proven them effective in building trust-related beliefs in the online environment, current B2B e-marketplaces still have a long way to go in applying these trust-building measures to foster a trustworthy trading environment.

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APPENDIX A

LIST OF B2B E-MARKETPLACES IN THE SAMPLE

No	Name	Industry	URL
1	Buyindies.com	Advertising & Media	www.buyindies.com
2	Agdeal.com	Agriculture	www.agdeal.com
3	Buyag.com	Agriculture	www.buyag.com
4	Fishround	Agriculture	www.fishround.com
5	Plantfind.com	Agriculture	www.PlantFind.com
6	TEAM-The Electronic Auction Market	Agriculture	www.teamauctionsales.com
7	NextMonet	Arts & Entertainment	www.nextmonet.com
8	Auto central	Automotive	www.autocentral.com
9	COVISINT	Automotive	www.covisint.com
10	TruckPartsLocator	Automotive	www.truckpartslocator.com
11	Aero Exchange	Aviation	www.aeroxchange.com
12	AirCraftMarketplace	Aviation	www.acmp.com
13	AviationZone	Aviation	www.aviationzone.net
14	ILSmart	Aviation	www.ilsmart.com
15	Partsbase	Aviation	www.partsbase.com
16	AssetLine.com	Building and Construction	www.assetline.com
17	bLiquid.com	Building and Construction	www.bliquid.com
18	Concretebrokers.com	Building and Construction	www.concretebrokers.com
19	Dirtmarket	Building and Construction	www.dirtmarket.com
20	ENI-Net.com	Building and Construction	www.eni-net.com
21	IronPlanet	Building and Construction	www.ironplanet.com
22	Trueflooring	Building and Construction	www.trueflooring.com
23	BioExchange.com	Chemicals	www.bioexchange.com
24	ChemConnect	Chemicals	www.chemconnect.com
25	ChemCross	Chemicals	www.chemcross.com
26	eChinachem	Chemicals	www.echinachem.com
27	WTOPharma	Chemicals	www.wtopharma.com
28	Chemdeals.com	Chemicals	www.chemdeals.com
29	Usbid.com	Defense	www.usbid.com

No	Name	Industry	URL
30	United Raw Material Solutions	Electronics & Electrical products	www.urms.com
31	Converge	Electronics & Electrical products	www.converge.com
32	eeParts.com	Electronics & Electrical products	www.eeparts.com
33	Netcomponents	Electronics & Electrical products	www.netcomponents.com
34	Virtual Chip Exchange	Electronics & Electrical products	www.virtualchip.com
35	Partminer Freetradezone	Electronics & Electrical products	www.freetradezone.com
36	TraderFirst	Electronics & Electrical products	www.traderfirst.com
37	Vendorbase	Electronics & Electrical products	www.vendorbase.com
38	BidVantage	Electronics & Electrical products	www.bidvantage.com
39	GlobalSpec	Electronics & Electrical products	www.globalspec.com
40	InterContinentalExchange	Energy & Fuels	www.intcx.com
41	Houstonstreet	Energy & Fuels	www.houstonstreet.com
42	Petroleum Place	Energy & Fuels	www.ogclearinghouse.com
43	Network International	Energy & Fuels	www.networkintl.com
44	Pantellos	Energy & Fuels	www.pantellos.com
45	Watt Exchange Limited	Energy & Fuels	www.watt-ex.com
46	World Energy Solutions	Energy & Fuels	www.wexch.com
47	Cantor Environmental Brokerage	Environmental	www.emissionstrading.com
48	CO2e.com	Environmental	www.co2e.com
49	401Kexchange.com	Finance & Insurance	www.401kexchange.com
50	Cambridge Mercantile Corp	Finance & Insurance	www.cambridgefx.com
51	Creditex	Finance & Insurance	www.creidtex.com
52	Credit Trade	Finance & Insurance	www.credittrade.com
53	Currenex	Finance & Insurance	www.currenex.com
54	e-Debt	Finance & Insurance	www.e-debt.com
55	Fxall	Finance & Insurance	www.fxall.com
56	Puremarkets	Finance & Insurance	www.puremarkets.com
57	TradeWeb	Finance & Insurance	www.Tradeweb.com
58	Marketaxess	Finance & Insurance	www.marketaxess.com
59	Grand Street Group	Finance & Insurance	www.grandstreet.com
60	ecMarkets	Food & Beverage	www.ecmarkets.com
61	eVine	Food & Beverage	www.evine.com
62	seafood	Food & Beverage	www.seafood.com
63	Uvine	Food & Beverage	www.uvine.com
64	dairy.com	Food & Beverage	www.dairy.com
65	Global wine & spirits	Food & Beverage	www.globalwinespirits.com
66	Forestexpress LLC	Forest	www.forestexpress.com

No	Name	Industry	URL
67	World Wide Wood Network	Forest	www.wwwood.net
68	Auctionmart.com	Healthcare & Pharmaceuticals	www.auctionmart.com
69	Global Healthcare Exchange	Healthcare & Pharmaceuticals	www.ghx.com
70	Medbuy Corporation	Healthcare & Pharmaceuticals	www.medbuy.com
71	MedPlanet	Healthcare & Pharmaceuticals	www.medplanet.com
72	SoluMed.com	Healthcare & Pharmaceuticals	www.solumed.com
73	Optical Auctions	Healthcare & Pharmaceuticals	www.opticalauctions.com
74	StarCite	Hospitality & Leisure	www.starCite.com
75	AFTERnic.com	IT products	www.Afternic.com
76	Componentsource	IT products	www.componentsource.com
77	NeoIT	IT products	www.neoit.com
78	ITParade.com	IT products	www.itparade.com
79	Telezoo	IT products	www.telezoo.com
80	Tradeloop	IT products	www.tradeloop.com
81	Tribon Solution AB	Maritime product and service	www.tribon.com
82	Ocean Connect	Maritime product and service	www.oceanconnect.com
83	Metal suppliers online	Metal & Mining	www.suppliersonline.com
84	Metalsite	Metal & Mining	www.metalsite.com
85	Omnexus	Plastics & rubber	www.omnexus.com
86	Polymersite	Plastics & rubber	www.polymersite.com
87	The PlasticsExchange.com	Plastics & rubber	www.theplasticsexchange.com
88	TenantWise	Real Estate	www.tenantwise.com
89	sitestuff	Real Estate	www.sitestuff.com
90	bid4assets	Real Estate	www.bid4assets.com
91	barry-wehmiller.com	Packaging	www.barry-wehmiller.com
92	Band-X	Telecommunication & Bandwidth	www.band-x.com
93	Bandwidth Market	Telecommunication & Bandwidth	www.bandwidthmarket.com
94	GsatX	Telecommunication & Bandwidth	www.gsatx.com
95	TelecomFinders	Telecommunication & Bandwidth	www.telecomfinders.com
96	Apparelbids	Textiles & Leather	www.apparelbids.com
97	Fabria	Textiles & Leather	www.fabria.com
98	Fiberbuys	Textiles & Leather	www.fiberbuys.com
99	ItalianModa	Textiles & Leather	www.Italianmoda.com
100	Wotol	Textiles & Leather	www.wotol.com

APPENDIX B

CODING SCHEME

Your Name: _____

Date: _____

General Introduction

Please visit the following B2B Electronic Marketplace (e-marketplace), to carefully examine a variety of trust-building mechanisms.

NAME	(given to coders)
URL	(given to coders)

It will take approximately two hours to complete this coding sheet. Start your examination at the homepage of the e-marketplace. You can use "Site Map" and "Help" sections to get a quick overview. Some trust-building mechanisms can be easily identified at the following pages: "Home", "Privacy policy", "About us", "Contact us", "Partnership", and "Testimonials"; while other mechanisms, such as escrow services, perceived cooperative norms, and reputation rating systems, may require more time and effort to discover. You should closely look at "Terms and Conditions", "Registration Guidelines", or other pages related to user agreements.

Please read Section A for the overview of the trust-building mechanisms, and answer the questions in Section B by carefully examining whether each of the trust-building mechanisms is currently used in the above B2B e-marketplace.

SECTION A:

Overview of Trust-Building Measures

1. Escrow Services

Escrow services let buyers send payments to a third-party to be held until goods are delivered or they are satisfied with the goods; it simultaneously benefits sellers by providing protection against fraudulent credit cards. Escrow can be held by the e-marketplace or by a third-party.

2. Monitoring of Products / Services

a. Product appraisal – Product price or value are assessed by experts according to the measurement of specified characteristics.

b. Product guarantees and warranties – A guarantee given to the purchaser by sellers or the e-marketplaces stating that a product is reliable and free from known defects and that the seller/e-marketplace will, without charge, repair or replace defective parts within a given time limit and under certain conditions.

c. Product inspection – Products are inspected by a trusted third-party or by the purchaser at particular points, from initial evaluations and inspection of raw materials to final inspections of delivered goods.

d. Product reviews – Product performance or quality is reviewed by a trusted third-party in order to provide valuable information to prospective buyers.

3. Insurance

Insurance is offered for an uncompleted transaction or an unexpected return when there is no fault by either party involved in the exchange.

4. Cooperative Norms

Perceived cooperative norms can be defined as organizations' expectations of the values, standards, and principles to which their trading partners adhere.

a. Dispute resolution – Facilitators and mediators are enlisted to resolve disputes arising from online transactions. Note that the disputes addressed by this mechanism are the conflicts between buyers and sellers using an e-marketplace to do business. The resolution process rectifies problems involving three participants in a transaction: buyers, sellers, and e-marketplaces. The resolution of bilateral arguments, between only buyers and an e-marketplace or between only sellers and an e-marketplace, should not be considered.

b. Codes of conduct – Codes of conduct describe general transaction regulations for participants from an ethical perspective. For example, participants should provide accurate information for user identification and product description, keep their accounts and passwords confidential, obey applicable laws (e.g. national export/import laws), and avoid disallowed acts, such as interfering with network security and transmission or trading illegal items. Moreover, some e-marketplaces will list detailed codes of conduct for buyers and sellers respectively. Please note that codes of conducts are often described in a page titled "Codes of Conduct", or incorporated into a "Terms and Conditions" page.

c. Expected transaction patterns – Expected transaction patterns are identified when an e-marketplace provides detailed information to prospective participants about how

transactions are made on an e-marketplace. For example, on the page of "Terms and Conditions", an e-marketplace may specify acceptable methods of payment: for example bank transfers or letters of credit. It may also state how shipping is arranged and whether taxes will be charged. In particular, if an e-marketplace has an exchange or auction function, the content of rules may contain price offers, bidding times, requirements for winning a bid, or bid closing processes.

5. Member Screening

Member screening is a membership qualification assessment both for first-time visitors and for members who hope to maintain their qualifications. Screening methods include credit checking, letters of reference from existing or current trading partners, telephone verification of member information, and participant performance reviews. Note that completing a registration form which only contains simple contact information for an applicant should not be considered as a screening method.

6. Reputation Systems

A reputation rating system publishes ratings of the performance of particular participants based on opinions stated by their trading partners or the e-marketplace.

7. Third-party Assurance Seals

Assurance seals are types of certificates offered by trusted-third parties. Usually, they are issued for solving participants' concerns about privacy and the reliability of the sites they are using to do business. The most commonly-used approval seals include TRUSTe, WebTrust, Verisign, and BBBonline. Please note that the seals issued by the sponsors or owners of an e-marketplace should not be considered.

8. Privacy Policy

An e-marketplace may state a privacy policy on its web site. Some e-marketplaces state their privacy in specific pages (e.g. "Privacy Policy"), while some may incorporate these policies into general "Terms and Conditions" pages.

9. Disclosing E-Marketplace Longevity

Site longevity refers to the statements about the business history of an e-marketplace.

10. Disclosing Management Team Profile

An e-marketplace's management team may be introduced, often with contact information listed.

11. Disclosing E-Marketplace Size

An e-marketplace may publish the size of its membership, its revenue, or the volume of trade generated.

12. Affiliation with Respected Organizations

To establish affiliation with respected organizations, an e-marketplace may enter partnerships with respected organizations or become qualified members of an industry association, or organization.

13. Testimonials from Current Participants

An e-marketplace may disclose comments or success stories from its current participants.

14. Advertising Awards Earned

An e-marketplace may advertise that it has won an award from an industry association, organization, or a news media outlet, such as a magazine, newspaper, authoritative website, or email newsletters.

15. Excerpts from News Media Outlets

An e-marketplace may provide excerpts articles or reports from a news media outlet. The content of reports usually includes: revenue growth, strategic affiliations, or an acquisition of investment.

16. Advertising the Well-known Participants

An e-marketplace may list its well-known customers. For example, an e-marketplace in Finance industry may list its customers which are industry leaders, such as Morgan Stanley, Merrill Lynch, and Citigroup.

SECTION B:

Examination of Trust-Building Measures

Mark "√" in the appropriate blank, "Yes" or "No", if you have found a specific trust-building mechanism in the e-marketplace. If a new specific trust-building mechanism has been found, but is not listed in this coding sheet, please describe that mechanism in the applicable "Notes" section. Please note that "products" in the coding sheet refers to the products traded in an e-marketplace.

1. Escrow Service

a. Does the e-marketplace provide escrow services? YES ( ) NO ( )

2. Monitoring of Products / Services

a. Does the e-marketplace provide product appraisals? YES ( ) NO ( )

b. Does the e-marketplace provide guarantees/warranties for products? YES ( ) NO ( )

c. Does the e-marketplace allow inspection for initial evaluations of products or for final rejections of delivered goods? YES ( ) NO ( )

d. Does the e-marketplace provide reviews for products? YES ( ) NO ( )

Note: _____

3. Insurance

a. Does the e-marketplace provide insurance? YES ( ) NO ( )

4. Cooperation Norms

4-1. Dispute Resolution between buyers and sellers

a. Is arbitration binding in accordance with the rules of the National Arbitration Forum? YES ( ) NO ( )

b. Is arbitration binding in accordance with the commercial arbitration rules of the American Arbitration Association? YES ( ) NO ( )

Note: _____

4-2. Codes of Conduct

a. Does the e-marketplace provide codes of conduct that describes general transaction regulations for participants from an ethical perspective? YES ( ) NO ( )

4-3. Expected Transaction Patterns

a. Does the e-marketplace provide detailed information for prospective participants to know how online transactions are performed? YES ( ) NO ( )

5. Member Screening

a. Does the e-marketplace assess membership qualification? YES ( ) NO ( )

6. Reputation Systems

a. Does the e-marketplace provide peer ratings? YES ( ) NO ( )

b. Does the e-marketplace evaluate the performance of its participants? YES ( ) NO ( )

Note: _____

7. Third-party Assurance Seal

a. Does the e-marketplace use a seal issued by BBBOnline? YES ( ) NO ( )

b. Does the e-marketplace use a certification issued by CyberProcess? YES ( ) NO ( )

c. Does the e-marketplace use a seal issued by THAWTE? YES ( ) NO ( )

d. Does the e-marketplace use a seal issued by TRUSTe? YES ( ) NO ( )

e. Does the e-marketplace use a certificate issued by UCCNET? YES ( ) NO ( )

f. Does the e-marketplace use a seal issued by Verisign? YES ( ) NO ( )

Note: _____

8. Privacy Statements

a. Does the e-marketplace state its privacy policy? YES ( ) NO ( )

9. Disclosing E-Marketplace Longevity

a. Does the e-marketplace provide its business history? YES ( ) NO ( )

10. Disclosing Management Team Profile

a. Does the e-marketplace provide a management team profile? YES ( ) NO ( )

11. Disclosing E-Marketplace Size

a. Does the e-marketplace publish its size, e.g. the number of members, the number of products, and revenue? YES ( ) NO ( )

12. Affiliation with Respected Organizations

a. Has the e-marketplace established partnerships with respected organizations? YES ( ) NO ( )

b. Has the e-marketplace registered as a qualified member of an

industry association, or organization? YES ( ) NO ( )

13. Testimonials From Current Participants

a. Does the e-marketplace publish its participants' testimonials? YES ( ) NO ( )

14. Advertising Awards Earned

a. Does the e-marketplace advertise that it has won an award from an industry association, an organization, or a news media outlet such as magazine, a newspaper, or an authoritative website? YES ( ) NO ( )

15. Excerpts from News Media Outlets

a. Does the e-marketplace provide excerpts from a news media outlet? YES ( ) NO ( )

16. Advertising the Well-known Participants

a. Does the e-marketplace list its well-known customers? YES ( ) NO ( )

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