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### Beyond institution-based trust

### Building effective online marketplaces with social mechanisms

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**BEYOND INSTITUTION-BASED TRUST: BUILDING EFFECTIVE  
ONLINE MARKETPLACES WITH SOCIAL MECHANISMS**

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Keywords:	Social mechanisms, Social relationship, Institutional structures, Trust, Perceived risk, Online marketplaces
Abstract:	<p>Researchers have devoted considerable efforts to design effective online marketplaces, especially with respect to the institutional structures believed to establish buyer trust in the community of sellers. Comparatively speaking, the effectiveness of social mechanisms, although practically evidenced as important, has received much less attention in e-commerce research. In the current study we explore the contribution of social mechanisms—specifically IT-enabled instant messaging, the message box, online community and informal coalition programme—to effective online marketplaces. We propose that these mechanisms facilitate social relationships and trust building processes during transactions, in addition to the existing institutional structures. When consumer-to-consumer (C2C) transactions are considered risky, the buyer-seller social relationship is more critical for buyers when forming their transaction intentions. The research model is largely supported by a pilot study of 104 buyers of TaoBao.com, China’s C2C leading marketplace. We discuss the findings, implications, and our preparations for a large-scale study.</p>



# BEYOND INSTITUTION-BASED TRUST: BUILDING EFFECTIVE ONLINE MARKETPLACES WITH SOCIAL MECHANISMS

*Research-in-Progress*

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## Abstract

*Researchers have devoted considerable efforts to design effective online marketplaces, especially with respect to the institutional structures believed to establish buyer trust in the community of sellers. Comparatively speaking, the effectiveness of social mechanisms, although practically evidenced as important, has received much less attention in e-commerce research. In the current study we explore the contribution of social mechanisms—specifically IT-enabled instant messaging, the message box, online community and informal coalition programme—to effective online marketplaces. We propose that these mechanisms facilitate social relationships and trust building processes during transactions, in addition to the existing institutional structures. When consumer-to-consumer (C2C) transactions are considered risky, the buyer-seller social relationship is more critical for buyers when forming their transaction intentions. The research model is largely supported by a pilot study of 104 buyers of TaoBao.com, China's C2C leading marketplace. We discuss the findings, implications, and our preparations for a large-scale study.*

**Keywords:** Social mechanisms, social relationship, institutional structures, trust, online marketplaces

## Introduction

In the past decade, online C2C marketplaces have experienced dramatic changes. In 2002, eBay acquired China's leading C2C platform, EachNet, renaming it as eBay China. However, eBay China lost her dominant leadership in China in 2004 and quit the world's largest emerging market in 2006. This dramatic change can be attributed to the territory intrusion by TaoBao.com. Meanwhile, in 2005, eBay purchased Skype for US\$2.6 billion with the aim of giving buyers and sellers an effective way to talk to each other. However, eBay decided to off load this communication tool in 2009 since "it does not fit with the rest of eBay's operations"<sup>1</sup>. By way of contrast, TaoBao claimed 191 million downloads of 'WangWang', its platform embedded instant messaging (IM) tool by November 11, 2009, with more than 90% of the users using WangWang when conducting transactions at TaoBao.

In parallel with these business stories, scholars have invested enormous efforts in studying how to design effective online marketplaces so as to attract buyers to engage the transactions with "unknown" online vendors in online marketplaces. Trust and trust building mechanisms have received great attention (e.g., Gefen et al. 2003; McKnight et al., 2002). Typically, institutional structures, such as reputation system, escrow services, credit card guarantees and intermediary protections, are treated as effective trust building mechanisms (e.g., Pavlou and Gefen 2004; Pavlou and Dimoka 2006). These institutional-based trust building mechanisms have also become common in marketplaces such as eBay and TaoBao.

Trust is a well known research topic, but prior research on trust has yet to explain the competitive advantage of TaoBao over eBay in China. We suggest that TaoBao's competitive advantage can be partially attributed to the successful facilitation of buyer-seller social communications using WangWang. Indeed, other typical social mechanisms designed at TaoBao include the platform embedded message box (similar to email and message exchange in an online platform), social network (i.e., online community) and informal seller associations classified by seller location. Similar to institutional structures, we speculate that this social perspective may equally engender buyers' trust and facilitate buyer-seller relationship building via buyer-seller interaction and informal coalitions.

Although the social perspective is clearly important, as shown in eBay and TaoBao, it has received little attention in the literature on online marketplaces. This is perhaps due to buyers engaging "with sellers with whom they have little or no prior interaction" (Pavlou and Gefen 2004, p.37) as a matter of routine, implying that buyer-seller interactions may be unnecessary. This is especially true in Western countries such as the US where legal protections for online transactions are well established, and therefore online transactions are perceived as being less risky. However, in other countries like China, buyers may rely on social mechanisms to establish inter-personal trust and relationships so as to overcome the institutional deficiencies and high risk nature of e-commerce (Martinsons 2008). We argue that the interactive social mechanisms, in addition to institutional structures, are worthy of attention and have the potential to provide an alternative lens to explain the success of TaoBao and the fading of eBay in China.

Specifically, we propose that four IT-enabled social mechanisms, together with the above mentioned institutional structures, can enhance buyers' trust in sellers and buyer-seller social relationships in C2C marketplaces, which are correlated with buyers' transaction intentions. This social perspective is orthogonal to the view of institutional structures, underlining the importance of social, interactive and informal elements that static institutional structures cannot offer. In addition, we argue that buyers will be more likely to rely on buyer-seller trust and social relationships to form their transaction intentions when online transactions are considered highly risky.

Following this introduction, we detail the justifications for the above hypotheses. We then present some preliminary statistical results based on a pilot study of 104 TaoBao buyers. We conclude this research-in-progress paper with discussions, implications, and preparations for a large-scale study.

## Theoretical Development

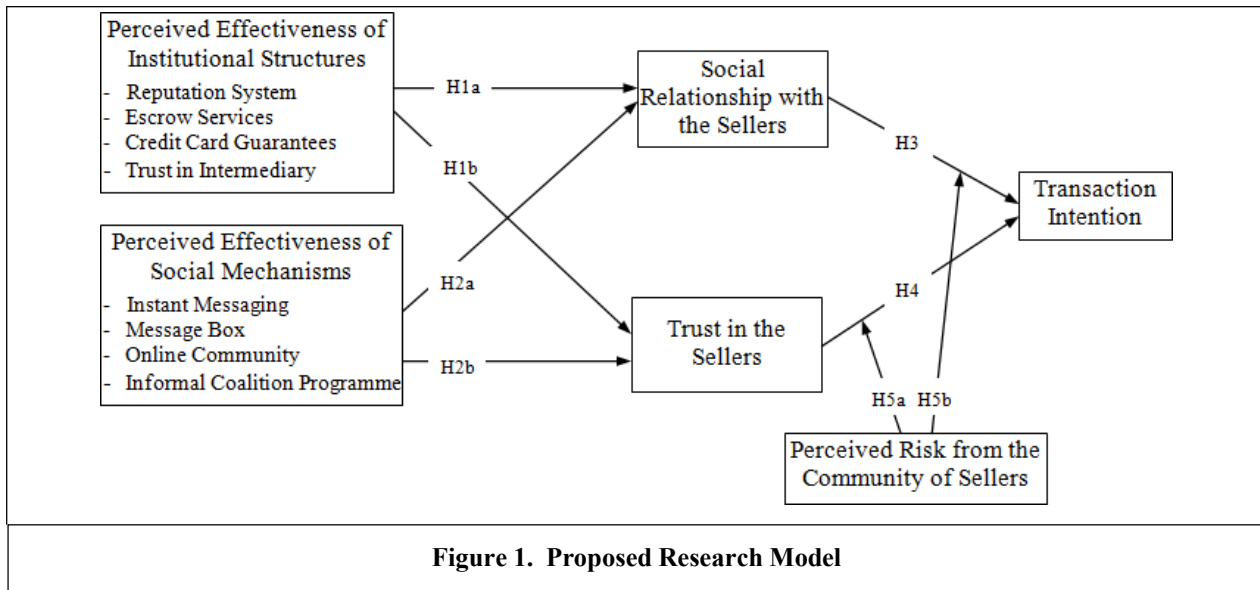
We rely on the theories of institution-based trust (Pavlou and Gefen 2004) and social relationships (Arias 1998; Coleman 1988; Martinsons 2008) to establish the research model. As institutional-based trust has been discussed in detail in the literature, we focus on the role of social relationships in transaction exchange which can be shaped by institutional structures and social mechanisms. We argue that social relationships can gain information and trust that

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<sup>1</sup> <http://www.bloomberg.com/apps/news?pid=20601087&sid=aCWYwCYVyHx4&refer=home>



fulfills the prerequisites for business transactions. A social relationship is critical to retain loyal customers, according to theories of relationship marketing (Dwyer, 1987; Arias, 1998). Similar to the traditional business where social relationships have been stressed (ibid), social relationships between online buyers and sellers lubricate the transaction process in the C2C marketplaces with their direct interactions and concrete contacts. Although social mechanisms have received little attention in the research on online marketplaces, we contend social mechanisms, including IM, message box, online community and information coalition programme, facilitate information and commercial exchange in the online C2C marketplace. Indeed, online buyers and sellers, as the actors in a C2C social network, establish social relationships in order to subsequently benefit from these relations in terms of information and/or business. Such social relations have gone beyond the impersonal institution-based trust mechanisms such as reputation system, escrow services, credit card guarantees and intermediary protection, providing buyers in C2C marketplaces with direct information exchange and interpersonal level protection in online transactions. In addition, we also explore the moderating effects of perceived risk in the research model (as shown in Figure 1).



***Perceived Effectiveness of Institutional Structures on Building Buyer-Seller Social Relationships***

Given the temporal and physical separation among buyers and sellers, Information Systems (IS) scholars have focused on trust and trust building mechanisms with the aid of IT artifacts in effective online marketplaces. For example, a stream literature shares the commonality of the focus on the *institutional structures* that are based on guarantees and recommendations from third parties on a platform level (Pavlou and Gefen 2004; Pennigton et al. 2003; McKnight et al., 2002). In the reality, four institution-based structures are popular in most online marketplaces such as eBay, TaoBao, Yahoo and Amazon, as explained below.

*The effectiveness of the reputation system:* A reputation system records an online seller’s reputation, calculated by the total feedback system and qualitative comments about past transaction behavior of the focal seller. For each transaction, a buyer can evaluate the seller (and vice versa) by providing a feedback score (-1, 0, +1) and writing detailed text comments. Because the reputation system can document all of a seller’s past transaction records commented by those buyers based on their transaction experience, it can accurately signify a seller’s transaction behavior. Also, given its self-regulated nature, reputation systems have been widely adopted in C2C marketplaces.

*The effectiveness of escrow services:* Escrow services are provided by a third party that authorizes the payment only after the buyer has received and approved the goods (Pavlou and Gefen 2004). Typical escrow services providers are PayPal (a subsidiary of eBay) and AliPay (a subsidiary of Alibaba). Third-party escrow services provide additional guarantees to buyers because buyers have the right not to pay if the received product does not match the expected quality. In order to make the whole transaction successful and get the payment transferred by the escrow provider, sellers must behave in a socially acceptable manner.

*The effectiveness of credit card guarantees:* A credit card guarantee is another legal and institutional mechanism that provides safeguards for online transactions (Tang et al., 2003; Pavlou and Gefen 2004). In general, credit card

providers offer a secured channel for online payment. Most credit card transactions also offer buyers zero liability when online transactions involve fraud. Online sellers who adopt credit card payments must be verified by the credit card companies and accepted as their business partner. By credit card companies' upholding the payment to the sellers, fraudulent and opportunistic sellers' transaction behavior can be avoided.

*Trust in the Intermediary:* When an online marketplace is established, the intermediary (the platform provider), often institutes platform-level regulations and restrictions of opportunistic transaction behavior (Pavlou and Gefen 2004; Luo and Najdawi 2004). The intermediary also provides resolutions when disputes occur among buyers and sellers. If the buyers trust that the intermediary has set up and always enforces fair rules, procedures, outcomes and penalties for online transactions, they will trust the online sellers will behave according to the intermediary's accepted rules. Otherwise, opportunistic sellers may suffer from such serious consequences as monetary penalties, sellerships taken away and legal actions taken by the intermediary on behalf of the buyers.

Although the effectiveness of institutional structures in building buyer trust has been well examined (e.g., Pavlou and Gefen 2004), we argue that the perceived effectiveness of institutional structures also has the potential to nurture buyer-seller *social relationships* that emphasize inter-personal relationships, personal ties, reciprocity and cooperation (Arias 1998) in an online marketplace. Accordingly to the theory of social capital (Coleman 1988), a human being's interpersonal relationships are constrained within established social structures, where obligations and expectations are recognized, and then the actors involved benefit from the established social structure. Therefore social capital, as a form of social relationship, "is organized in different ways by the normative structures in which it is embedded" (Reimer et al. 2008, p.258). Institutional structures provide people with normative expectations that individuals will follow the formal rules. With such institutional structures in place, a comfort zone safeguarded by institutional mechanisms makes people feel easy to start a social relationship. Similarly, in an online marketplace where the legal and institutional structure is well established, an inter-personal and cooperative relationship is easy to achieve among buyers and sellers because both parties expect that institutional structures can prevent or control opportunistic behavior in online transactions. With a general set of norms associated with the above four institutional mechanisms in online C2C marketplaces, buyers expect sellers will follow the formal rules of transactions. With such normative structures in place, transaction parties have less concern but more confidence and assurance in a long-term transaction relationship with online sellers. Similarly, the perceived uncertainty in forming a cooperative relationship to make fair transactions is thus reduced. So we propose that:

*H1a: The perceived effectiveness of institutional structures nurtures buyer-seller social relationships.*

### ***Perceived Effectiveness of Institutional Structures on Building Buyer Trust***

Following Pavlou and Gefen (2004), *trust in the community of sellers* refers to a buyer's subjective belief that online transactions with sellers in one particular marketplace will occur in a trustworthy manner. Such trust is based on the existence of third-party structures that are independent of dyadic actions. The existence of these institutional structures can improve a buyer's trust in the community of sellers in an online platform, which is transferred from trustworthy third parties including other buyers' evaluation of sellers' transactions, the escrow service provider, credit card companies and the intermediary's rules in restrictions of opportunistic transaction behavior. In the context of impersonal online C2C marketplaces, online buyers' trust is built primarily based on these institutional mechanisms, and is therefore named as institution-based trust. Taken together, past research has provided sufficient conceptual arguments and empirical evidence for the effectiveness of the above-mentioned four institutional structures in building buyer trust. So we propose that:

*H1b: The perceived effectiveness of institutional structures increases buyer trust in the community of sellers.*

### ***Perceived Effectiveness of Social Mechanisms on Building Buyer-Seller Social Relationships***

*Social mechanisms* in this study refer to the IT artifacts designed to facilitate buyers' transactions by providing buyer-seller communication channels and informal associations. Unlike institutional structures that are independent of buyer-seller dyadic relationships (Pavlou and Gefen 2004), social mechanisms enable the buyers' experience seeking based on interaction, socialization and informal connections. Compared to institutional structures, researchers pay much less attention to the application of social mechanisms in the C2C marketplace (Chen et al. 2007). However, reality suggests that C2C platforms incorporate many different social mechanisms to facilitate social relationship building among buyers and sellers. For example, TaoBao provides several such channels,

including *IM*, the *internal message box*, a social network based *online community* and a *sellers' information coalition programme* classified by seller location, as explained below.

*The effectiveness of instant messaging (IM):* IM tools have been applied to facilitate the social process in virtual teams (Erickson and Kellogg 2000), workplace collaborations (Quan-Haase et al. 2005) and individual adoption for general socialization and communication purposes (Li et al. 2005). Empirical studies about IM use in online marketplaces are rare, but both TaoBao and eBay have provided an IM tool to facilitate buyer-seller communication, viz. WangWang and Skype respectively. Regarding the effectiveness of IM in online marketplace, Ji and Meeker (2005, p.20) comment that TaoBao's IM tool helps buyers and sellers "get into each other's mind in more depth" thus creating "the stickiness for TaoBao's community" and increasing the probability of repeat transactions.

*The effectiveness of the message box:* A platform-embedded message box is another communication tool used at TaoBao. It is designed to enable buyers to leave a comment or question under a specific product displayed in a seller's shop in the online marketplace. The comment/question raised by the buyer will be sent to the message box of the seller's email system, with the hyperlink of the focal product. Such message exchange functions are similar to email, but the message sending and receipt are conducted within the transaction platform. Unlike the near-synchronized IM, the message box provides both buyers and sellers with a time buffer to think and write. This proved to be an effective interaction tool to establish mutual understanding among users (Sivunen and Valo 2006).

*The effectiveness of the online community:* In most online C2C marketplaces, online communities focus on transaction information exchange between participants, also providing a common platform for both buyers and sellers with similar experiences to share and discuss common topics (Hagel and Armstrong 1997). The concept of community has a long history in social theory which emphasizes social bonding via communities (Dewey 1927). However, its effectiveness in facilitating transactions has seldom been explored in online marketplaces (Szmigin et al. 2005). In fact, most online marketplaces have practically considered using an online community to establish social bonds among buyers and sellers (Ji and Meeker 2005). For example, TaoBao has established seven online communities, serving as interactive channels for members to seek information on frequently asked questions (FAQs), up-to-date content about fashion, shopping guides, product reviews and product comparisons. Such virtual communities embedded in the online marketplace allow and encourage conversations and information seeking behavior that can be of value to buyers, sellers and other various interested parties.

*The effectiveness of the informal coalition programme:* According to the theory of coalition (Gamson 1961), a *coalition* is the joint use of resources by two or more individuals or groups following the same strategy in order to establish a mutual relationship. Unlike formal third-party certifications such as TrustE and BBBOnline, the *information coalition programme* in an online marketplace is a membership-based informal association specific to seller location. For instance at TaoBao, both buyers and sellers can join the coalition programme grouped by city or province with an emphasis on the shared background. Coalition programme members often share transaction experiences and opinions on products, promotions, purchases and sales. Such coalition programmes, although rather informal as they are location-based and usually self-disciplined, aim to build a creditable and trustworthy image and collective reputation by promoting the same value and background culture of coalition members.

In sum, although online purchases can be automated without direct buyer-seller interactions, the above four IT-enabled social mechanisms in fact "enable dialogue and bonding between those who participate in online communication" and thus achieve a "meaningful relationship" where both buyers and sellers can benefit (Szmigin et al. 2005, p.483). Specifically, the IM tool used in the online marketplace facilitates direct and interactive dialogues, mimicking face-to-face communication among buyers and sellers. The message box allows quality customer service but in a more flexible way because it offers time buffering. Online communities contribute to relationship building by involving various users (buyers, sellers and visitors) into conversations, rendering online marketplaces more interactive and addressing the inherent limitation of online purchase simplification by building social bonds. Informal coalition programmes enhance relationship marketing primarily by promoting in-group member sharing and similar location-based background. In the past, online marketplaces were largely considered as dyadic trust-engendering effects of familiarity where satisfactory interaction may not apply (Pavlou and Gefen 2004). Now we argue that these IT-enabled social mechanisms can overcome the dehumanization of online marketplaces with the provision of interactive and informal social bonding means, and thus enable buyer-seller social relationships during the process. So we propose that:

*H2a: The perceived effectiveness of social mechanisms nurtures buyer-seller social relationships.*



### ***Perceived Effectiveness of Social Mechanisms on Building Buyer Trust***

During the process of socialization and bonding with the aid of the four above-mentioned social mechanisms, buyer trust in the community of sellers can also be established. In terms of IM functionality, sellers' real-time responses to buyers' questions and the provision of direct communication channels are more likely to build buyers' trust than those sellers who vend in the online marketplaces without employing IM technology. Second, the message box functionality helps buyers appreciate sellers' overall trustworthiness in explaining product descriptions, offering product details and solving buyers' problems specific to a particular product. This is a critical process in building a buyer trust. Third, sellers can make use of the online community to share product information and promote their shops by involving buyers to interact with each other so as to build their trust. Fourth, informal coalition programmes establish social norms for members to follow. By demonstrating honesty, integrity and dependability over time with these social and bonding mechanisms, buyer trust can be established. So we propose:

*H2b: The perceived effectiveness of social mechanisms increases buyer trust in the community of sellers.*

### ***Trust, Social Relationships, and Transaction Intentions***

Following Pavlou and Gefen (2004), *transaction intention* is defined as the buyer's intention to engage in online exchange relationships with the community of sellers. Buyer-seller social relationships are the focus of relationship marketing due to the fact that such relationships can nurture repeated exchanges (Dwyer et al. 1987). Social relations play a crucial role in attracting and retaining customers, no matter in traditional business (Arias 1998) or in online marketplaces (Martinsons 2008). Consistent with this view, Chen et al. (2007) comment that Chinese online C2C marketplaces are socially oriented: the buyer-seller social relationship is the key to achieve competitive advantage. We thus propose that:

*H3: The buyer-seller social relationship has a positive effect on a buyer's intention to transact with the community of sellers in an online marketplace.*

Past studies also suggest that buyer trust is one precursor of transaction intention in online marketplaces (Pavlou and Gefen 2004). By demonstrating honesty, reliability, consistency and trustworthiness over time, the online seller can generate buyers' relationship commitment, repeat purchases and loyalty as outcomes (Shankar et al. 2002). When a buyer thinks the sellers in an online marketplace are more trustworthy, there is a higher chance that the buyer will conduct transactions in this marketplace. So we propose that:

*H4: Buyer trust has a positive effect on a buyer's intention to transact with the community of sellers.*

### ***The Moderating Role of Perceived Risk***

*Perceived risk* in this study is defined as a buyer's subjective perception of loss that may result from an online transaction (Pavlou and Gefen 2004). Compared to traditional transactions, risks involved in online marketplaces are more complex and of greater multitude because of the temporal and physical separation among buyers and sellers. Literature has established the formal relationship between trust and risk (e.g., Pavlou and Gefen 2004; McKnight et al., 2002; Gefen et al. 2003). However, "the complex and interactive nature of this relationship renders causal links difficult to establish" (Chiles and McMackin 1996, p. 90). Indeed, both social and IS researchers suggest that trust is a crucial enabler of transactional exchanges or collaborations at work when the situation is uncertain and opportunism is possible (Chiles and McMackin, 1996; McKnight et al., 2002; Gefen et al. 2003; Pavlou and Gefen 2004). Such a contention actually implies the positive moderating role of risk in the relationship between trust and transaction intention, meaning under high risk context such as online transactions, buyers may rely more on trust as a risk management mechanism to form the transaction intention, rendering a more important role of trust in online marketplaces. We thus propose the positive moderating role of risk as followed:

*H5a: The higher the risk of transacting with sellers in online marketplaces a buyer perceives, the more the buyer will rely on trust as a risk management mechanism to form the transaction intention.*

Similarly, buyers in online marketplaces may particularly favor the social relationship, choosing to transact with those sellers whom they know. This is notably the case when buyers are engaged in high risk online marketplaces such as those in China (Chen et al. 2007; Martinsons 2008). In contrast in the US, Martinsons (2008) suggests that buyers can freely enjoy online shopping because risks are minimally associated with online marketplaces given that

information is widely available and formal laws and regulations for online transactions are well established. This means that such a low-risk situation renders social relations less important when making a transaction decision. We thus propose the positive moderating role of risk as followed:

*H5b: The higher the risk of transacting with sellers in online marketplaces a buyer perceives, the more the buyer will rely on social relationships as a risk management mechanism to form the transaction intention.*

**Methodology**

Building upon the measurement scale of the perceived effectiveness of institutional structures (Pavlou and Gefen 2004), we developed similar measures for the constructs of perceived effectiveness of IM, message box, online community and informal coalition programme. We also adapted the measures of trust in the community of sellers, perceived risk from the community of sellers and transaction intentions from (Pavlou and Gefen 2004). We extend and operationalize Arias (1998)’s definition and conceptual explanations of social relationships in the context of online marketplaces, stressing buyer-seller interpersonal relationships, reciprocity, connection and cooperation. In addition, we relied on panel interviews with five TaoBao buyers and one seller, which helped us refine and verify all measures used in the proposed measures (available from authors). Then we conducted a pilot study at TaoBao.

For this pilot study, we randomly selected 500 buyers from 25 sellers’ reputation system (which documents buyers’ WangWang contacts) to participate in an online questionnaire survey in early 2010. The participants were asked to indicate their evaluation of institutional and social mechanisms, transaction experience and intentions at TaoBao. 104 valid responses were received in three weeks, a response rate of 20.8% (see Table 1 for demographic data).

**Table 1: Demographic Characteristics (n=104)**

	Items	Percent		Items	Percent		Items	Percent
Gender	Male	45.2%	Age	16-20	4.8%	Work Status	Students	30.8%
	Female	54.8%		21-25	47.1%		Employed	55.8%
				26-30	35.6%		Others	13.5%
				31-35	8.7%			
				36 and above	3.9%			
Education Level	Senior High School	7.7%	Online purchases from TaoBao in the past one year (times)	1 - 5	14.6%	Spending at TaoBao in the past one year (RMB )	1 - 200	6.7%
	Colleges	32.7%		6 - 10	10.7%		201 - 500	15.4%
	Undergraduate	48.1%		10 - 15	7.8%		501 - 1000	14.4%
	Master or above	11.5%		15 - 20	13.6%		1001 - 2000	20.2%
				21 and above	53.4%		2001 and above	43.3%

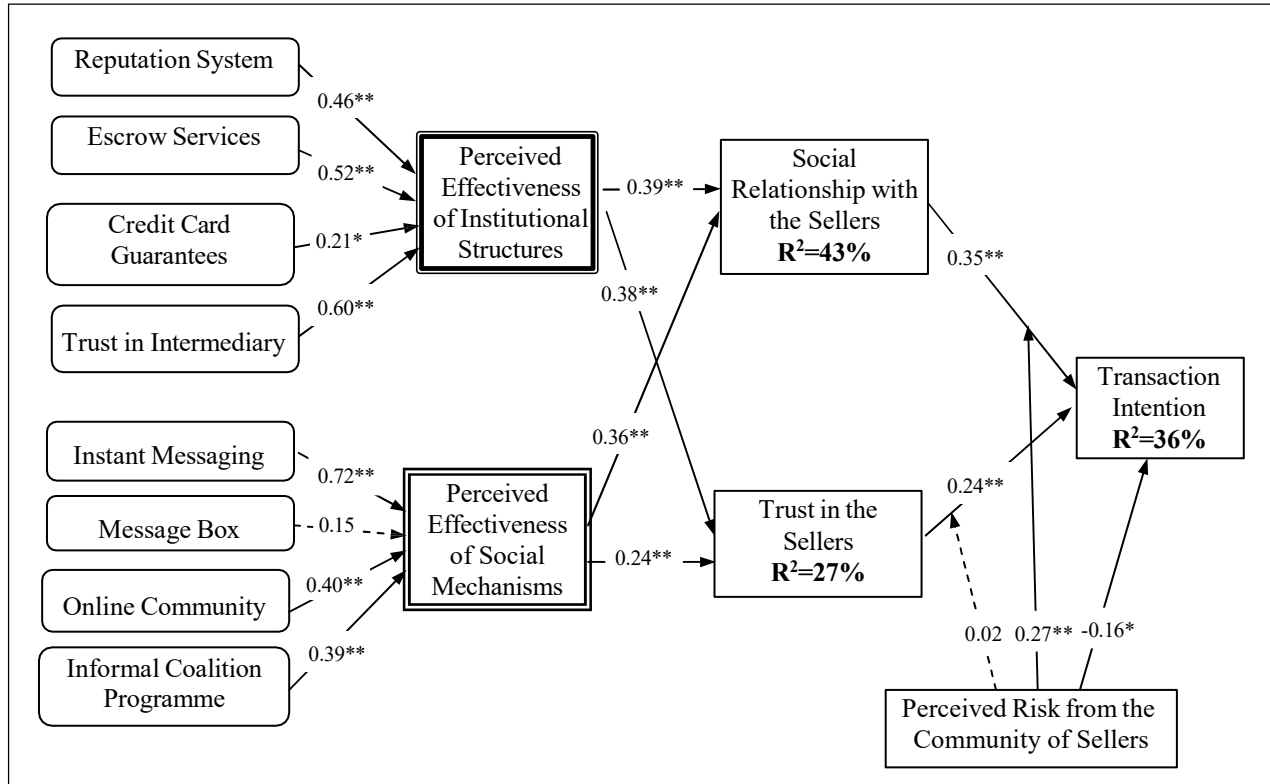
**Data Analysis**

We used Statistical Package for the Social Sciences (SPSS) and Smart Partial Least Squares (SPLS) for verifying the measurements, as well as testing the whole model. Convergent and discriminant validity are confirmed by factor analysis. Cronbach’s alphas of all constructs are above 0.95. The square roots of the Average Variance Extracted of all constructs are above 0.90, ensuring that the AVE for each construct is greater than the squared correlations between constructs. The detailed analytical results were omitted in this ‘research in progress’ for brevity.

To estimate the second-factor models of perceived effectiveness of institutional structures and social mechanisms, we model the latent second-order constructs’ formative indicator using a principal component factor analysis, following the procedure suggested by Diamantopoulos and Einklhofer (2001). Then we run the whole research model with the second-order constructs with SPLS. The analysis results of the SPLS are summarized in Figure 2.

The proposed research model received data support from the pilot study, except H5a. All four institutional structures show significant loadings to their second-order construct, validating the formative model. Except for message box, significant loadings are also found in all the other three social mechanisms. We speculate that this insignificant loading is due to the overwhelming role of IM (r=0.72, p<0.01) in the social mechanisms. This unexpected result suggests IM’s critical roles in building trust and social relationships between buyers and sellers. Both institutional structures and social mechanisms are found to significantly facilitate the establishment of trust and social

relationships, which subsequently lead to buyers' transaction intention, thus supporting H1, H2, H3, and H4. As proposed in H5b, risk is found to positively moderate the path between social relationship and transaction intention. However, its moderating role on the path between trust and transaction intention (H5a) is only modest. Nevertheless, this insignificant moderating of risk can be explained by the arguments provided by (Pavlou and Gefen 2004, p. 37) that "trust is crucial even in the less risky e-commerce relationship, such as buying from known online vendors". During modeling the moderating effects of risk, we also include its direct effect on transaction intention. The data also support its significant negative effect, consistent with the expectation. The variance explained for the constructs of trust, social relationship and transaction intention are 27%, 43% and 36%, respectively.



**Figure 2. PLS Results of Structural Model with Formative Measures (Note: n=104; \* p<0.05; \*\* p<0.01)**

Legend: Rectangles in single lines represent first-order factors measured with reflective scales. Rectangles in double lines represent second-order factors. Rounded rectangles represent first-order factors used as the formative measures of the second-order factors. Significant path coefficients are presented in solid lines. Insignificant path coefficient is presented in a dotted line.

As social relationship is the focus of this study, we also conducted hierarchy regression analysis across trust, social relationship, and the moderating roles of risk against the dependent variable, transaction intention (the details of the analysis are available from the authors). When social relationship is included in the regression of trust against transaction intention, the R<sup>2</sup> of transaction intention is increased from 16% to 28%. The extra variance – 12% – explained by social relationship in addition to trust is satisfactory. When perceived risk is included as a moderator in the research model, R<sup>2</sup> is increased by a further 8%, a total of 36%. In sum, the R<sup>2</sup> scores for all dependent variables and the high factor loadings yield an adequate goodness-of-fit for the overall research model (Chin 1998).

## Discussion, Implications, and Preparations for the Large Scale Study

Although researchers have made significant efforts in examining IT-based artifacts to build effective online marketplaces, the social mechanisms are relatively less investigated. In this pilot study, we provide a preliminary empirical confirmation on the effectiveness of three social mechanisms, namely IM, online community and informal coalition programme, in building trust and social relationships in online marketplaces. The significant positive moderating effect of risk on the path between social relationship and transaction relationship implies that online

marketplaces, such as those in China, are still considered highly uncertain and risky. The risk environment renders social relationships a more important role in forming buyers' transaction intentions. As pointed out by Thibaut and Kelley (1959), human beings are rational, with social interaction resembling a business transaction. Therefore the parties involved in an exchange relationship seek, in their negotiations, to maximize their own interests. The employment of this social relationship perspective to investigate online marketplaces contributes to understanding the relationship between human behavior and IT artifacts design in addition to the existing structural alternatives identified in transaction cost theory and past trust-related theories.

To the best of our knowledge, this research is the first study summarizing the social mechanisms in online C2C marketplaces. In addition, it is also among the first research conceptualizing social relationships in the context of online C2C marketplaces. It provides researchers with a starting point to explore the effectiveness of social relationships and the functions of existing popular social mechanisms in online C2C transactions. This social angle does not conflict with, nor replaces, institutional protections. Instead, under a well designed impersonal institutional online environment, the embeddedness of interpersonal social mechanisms supplements institutional mechanisms with interactive information and direct buyer-seller contacts. The interactive online environment (as evidenced by TaoBao), has transferred previous forms of institution-based trust to interpersonal dyadic trust. Nevertheless, in interactive online C2C marketplaces such as TaoBao, trust is still measured by integrity, competence, knowledgeable ability and dependability, while the mechanisms to achieve such trust have evolved from impersonal and institution based forms to interpersonal CMC based forms. Social mechanisms and relationships, although overlooked by e-marketplace researchers, have evidently provided a new strategic angle to better design online marketplaces beyond institutional mechanisms and trust. The linkages identified by social mechanisms, trust, social relationships and transaction intentions in this study provide theoretical justifications for later research on online marketplaces. Thus, research on e-commerce evolves. This social paradigm imbues information technology with a new role in facilitating online transactions. We anticipate more e-commerce researchers will employ the social perspective in their studies.

Practically speaking, institutional structures have been commonly adopted by most online marketplaces. However, using the social lens to design effective online marketplaces is just emerging. Institutional structures do not provide a valid or persuasive explanation for the competitive advantage of TaoBao over eBay in China. However, the heavy reliance on WangWang at TaoBao versus the offloading of Skype from eBay offers a compelling explanation for TaoBao's leadership. The power of social relationships as a facilitating agent for all types of business transactions in China cannot be underestimated. It is part and parcel of the Chinese business landscape. TaoBao envisages the crucial role of social relationship formation among buyers and sellers by ensuring that IT artifacts facilitate social relationship building. Together with the evidence demonstrated by TaoBao, this study offers preliminary confirmation that social relationships are instrumental in building strong exchange relationships among buyers and sellers and so rendering the marketplace a competitive advantage.

The hypotheses that we have developed in this 'research in progress' require more sophisticated justification. The survey questions, such as those on message box, can be fine-tuned. The relationship between trust and social relationship deserves detailed investigation. It will be interesting to know how trust and social relationships evolve, and play different roles in long-term buyer-seller transaction relationships in C2C online marketplaces. Control variables such as trust propensity, social relationship orientation and past transaction experience, should be included in the upcoming large scale study. Objective data such as buyers' actual usage of those social mechanisms and their actual transaction behavior (in terms of transaction number and dollars amount involved) can enhance the rigor of the research. In order to enhance the generalization, the research model should be tested with data from different countries where online marketplaces are prevalent, such as China, Japan, South Korea, the UK and the US.

This research has the potential to make a number of contributions. First, it suggests the social perspective for designing effective online marketplaces. Second, it opens up the world of Chinese C2C online marketplaces by investigating how specific social mechanisms contribute to the success of an online platform. Last but not least, it entices future researchers to continuously identify new IT artifacts as online marketplaces evolve. Nevertheless, this research about social mechanisms is only based on 104 online buyers. More comprehensive tests must be taken so as to formalize the contributions.

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