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RESEARCH ARTICLE

SWIFT GUANXI IN ONLINE MARKETPLACES: THE ROLE OF COMPUTER-MEDIATED COMMUNICATION TECHNOLOGIES[1]

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*The concept of **guanxi** (i.e., a close and pervasive interpersonal relationship) has received little attention in the literature on online marketplaces, perhaps due to their impersonal nature. However, we propose that computer-mediated communication (CMC) technologies can mimic traditional interactive face-to-face communications, thus enabling a form of guanxi in online marketplaces. Extending the literature on traditional guanxi, we herein introduce the concept of **swift guanxi**, conceptualized as the buyer's perception of a swiftly formed interpersonal relationship with a seller, which consists of mutual understanding, reciprocal favors, and relationship harmony.*

Integrating theories of CMC and guanxi, we develop a model that explains how a set of CMC tools (i.e., instant messaging, message box, feedback system) facilitate repeat transactions with sellers by building swift guanxi and trust through interactivity and presence (social presence and telepresence) with sellers. Longitudinal data from 338 buyers in TaoBao, China's leading online marketplace, support our structural model, showing that the buyers' effective use of CMC tools enable swift guanxi and trust by enhancing the buyers' perceptions of interactivity and presence. In turn, swift guanxi and trust predict buyers' repurchase intentions and their actual repurchases from sellers. We discuss the implications of swift guanxi in online marketplaces with the aid of CMC technologies.

Keywords: Guanxi, swift guanxi, computer-mediated communication (CMC) technologies, media synchronicity theory (MST), computer-mediated communication interactivity model (CMCIM), instant messenger (IM), online marketplaces, interactivity, presence, trust

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Introduction

Since 2004, TaoBao (www.taobao.com) has been ranked as the leading online marketplace in China by Alexa and iResearch. In contrast, eBay China dominated the field until 2004 and, despite its financial muscle and business acumen, faded and ultimately exited the world's largest emerging market in late 2006. According to a recent survey of Internet shopping in China (CNNIC 2011), 71.3 percent of TaoBao buyers are exclusively loyal to TaoBao. A Morgan Stanley industry report (Ji and Meeker 2005) highlighted the critical role of a specific computer-mediated communication (CMC) technology known as WangWang. WangWang is an instant messenger (IM) technology embedded in TaoBao's platform in order to facilitate online communications and transactions. WangWang adds value by helping buyers and sellers "get into each other's mind in more depth," creates the "stickiness for TaoBao's community," and facilitates repeat transactions (Ji and Meeker 2005, p. 20). Besides WangWang, TaoBao offers two other CMC tools for enhancing communication between buyers and sellers, namely a message box (a tool displaying buyers' short text messages related to a focal product) and a feedback system (a tool documenting the textual and numerical evaluations of buyers and sellers).

While obviously no single factor can explain the success or failure of an entire online marketplace, there is a consensus that high-quality buyer–seller communication is a critical success factor (Liu and Arnett 2000), particularly in China (Dunfee and Warren 2001). Dennis et al. (2008) argue in their exposition of media synchronicity theory (MST) that the concurrent use of multiple CMC tools can lead to better communication performance. In this study, we extend MST from traditional communications to online marketplaces to examine how and why these three CMC tools facilitate both high-quality buyer–seller communication and repeat buyer–seller transactions in online markets.

The Chinese concept of *guanxi*, broadly defined as a close and pervasive interpersonal relationship, is based on high quality social interactions and the reciprocal exchange of mutual benefits; it is a key component of buyer–seller transactions in China (Arias 1998; Lee et al. 2001; Xin and Pearce 1996). Guanxi helps facilitate commerce by lubricating business relationships with personal social connections. The unique role of guanxi in China's social and business life has often been cited. As *The Economist* (2000) pointed out, ironically, "if you don't have the patience to learn about guanxi, old boy, you might as well pack your bags and go home." Sun Tongyu (2005), TaoBao's CEO, noted the importance of guanxi in Chinese online marketplaces and stressed the critical role of communication in building guanxi: "Chinese businessmen are accustomed to establish guanxi with partners through meetings, chats, or having dinner together before reaching a deal." To theoretically extend the complex nature of traditional guanxi in the context of online marketplaces, we herein propose the concept of *swift guanxi*, defined as the *a buyer's perception of a swiftly-formed interpersonal relationship with a seller that comprises mutual understanding, reciprocal favors, and relationship harmony*.

We argue that both buyers and sellers in online marketplaces may inherently favor the formation of some form of guanxi. The weak institutional protection for consumers in China and the lack of institution-based trust were touted as the primary drivers for relying on interpersonal relationships to conduct online transactions (Martinsons 2008). In that guanxi can alleviate the risk of online transactions, Chinese people "must depend on it [guanxi] in the absence of systematic rules" (Martinsons 2008, p. 334). Similar to traditional guanxi, swift guanxi stresses that buyer–seller relationships are embedded in a business relationship because the ultimate goal of swift guanxi in online marketplaces is to lubricate online transactions. Nonetheless, guanxi in online markets is different from traditional guanxi as a result of the inherent nature of online transactions.

We maintain that arms-length buyer–seller guanxi can be more quickly formed and will be less pervasive than in traditional face-to-face relationships. Buyers in online marketplaces typically do not want to spend a long time building a deep relationship with sellers, especially since swift guanxi in online marketplaces only needs to lubricate online transactions. It does not need to develop further into a fully fleshed-out traditional guanxi in which relationship dependence, resources, and status matter.

Given the physical and temporal separation among buyers and sellers in online marketplaces, much prior research in Western contexts has focused on trust (e.g., Gefen et al. 2003; McKnight et al. 2002; Pavlou and Dimoka 2006), and identified many trust-building mechanisms, such as reputation systems and institutional structures (Pavlou and Gefen 2004). However, in China, given its relatively weaker institutional and legal environments, it is guanxi that is most salient (Lovett et al. 1999). Nevertheless, guanxi has received little or no attention in the information systems literature.

In Chinese online marketplaces, buyers and sellers can build guanxi if they avail themselves of the high-quality communication enabled by CMC tools (e.g., IM, message box, and feedback system). First, *IM* enables users to post instant responses to enquiries and display smileys, avatars, and icons, helping buyers and sellers negotiate and verify transaction

details (a communication process termed *convergence* in MST). Second, the *message box* can be used to display all buyers' short text messages related to a product. Third, the *feedback system* is a CMC tool that offers textual and numerical evaluations of buyers and sellers (Ba and Pavlou 2002). Both the message box and the feedback system can be viewed as media that capture multiple sources of retrospective information (a communication process termed *conveyance* in MST). These three CMC tools enable buyers and sellers to bridge their distance through communication, a critical component of business transactions in China (see Sun 2005).

Following MST, we propose that the effective use of these three CMC tools can help a buyer build guanxi with a seller in a swift fashion by enhancing the degree of *interactivity* (highly controllable, two-way, and synchronized interactions) and *presence* (perception of being physically and psychologically close to an online seller). Building on the guanxi literature (e.g., Dunfee and Warren 2001; Wong 1998), we justify that communication and *trust* are key predictors of guanxi. Following Gefen and Straub (2004), we consider trust to be an outcome of interactivity and presence in this study.

In summary, we examine how and why the three CMC technologies facilitate high-quality buyer–seller communications and, in doing so, help build swift guanxi between buyers and sellers. Specifically, three research questions have guided this study:

(1) What is the nature of swift guanxi in online marketplaces in China?
(2) What is the effect of swift guanxi on facilitating transactions in online marketplaces?
(3) How, with the aid of CMC tools, can swift guanxi be built in online marketplaces?

The paper proceeds as follows: first, we introduce the theoretical development and hypotheses. In the next section, we describe the field study and the secondary transaction data. In the subsequent section, we present the analysis and results. Finally, we discuss the study's contributions and implications.

Theoretical Development

We focus our theoretical development on online marketplaces in China, specifically on TaoBao. TaoBao's features are similar to those of many online marketplaces. However, in stark contrast to eBay and most online marketplaces that only contain a message box and a feedback system, TaoBao also deliberately developed and embedded WangWang, a direct buyer–seller CMC tool. We detail the research context, TaoBao, and the functions of these three CMC tools in Appendix A.

In terms of guanxi, we focus on the buyer's perspective, although swift guanxi is inherently framed in dyadic buyer–seller relationships. The buyer is the entity most appropriate to judge whether swift guanxi exists, and whether it is sufficient to facilitate transactions in online marketplaces despite the existence of information asymmetry in favor of the seller. Our focus on the buyer is consistent with the literature on traditional guanxi where the entity making the major (transaction) decisions is primarily examined (e.g., Lee and Dawes 2005; Leung et al. 2005).

Swift Guanxi in Online Marketplaces

Traditional Guanxi

In the literature, guanxi has been conceptualized and operationalized in various ways, given the complexity of the concept (e.g., Arias 1998; Fan 2001). As summarized in Table 1, guanxi has been viewed and empirically tested as (1) personal connections (e.g., Ambler et al. 1999); (2) strong ties, such as friends, relatives, classmates (e.g., Chou et al. 2004; Farh et al. 1998); (3) a network of social ties (e.g., Luo et al. 2008); (4) a relationship perspective emphasizing reciprocal favor as an obligation, interpersonal trust (e.g., Lee and Dawes 2005),[2] face preservation (e.g., Lee and Dawes 2003), relationship harmony (e.g., Lee and Wong 2001; Leung et al. 2005), and a long-term cooperation and relationship commitment (Ambler et al. 1999; Lee and Wong 2001; Leung et al. 2005; Luk et al. 1999).

The Bright and Dark Sides of Guanxi

Following the literature, guanxi is viewed as a common social phenomenon, particularly in China (Björkman and Kock 1995), and it constitutes a key component of business success (Wang 2007; Wong and Tam 2000). On the other hand, guanxi has a dark side since it requires time and effort to build guanxi, which may later prove to be unsuccessful (Fock and Woo 1998). Most importantly, when access to restricted resources (e.g., equipment, land, large-scale projects) is the

[2]For the most part, the literature on guanxi suggests that trust is viewed as a closely linked, but distinct construct (e.g., Lee and Dawes 2005; Luk et al. 1999). Lee and Dawes (2005) notably suggest that interpersonal interactions (covering business and social communication) constitute a separate construct from guanxi and trust.

Table 1. Literature on Traditional Guanxi and its Operationalization

Study	Guanxi Definition	Research Context	Operationalization of Guanxi
Xin and Pearce 1996	Personal dependence and informal relationship.	Private, state-owned or collective-hybrid Chinese companies	Survey questions cover: (1) importance of the relationship; (2) importance of connections in government; (3) connections as a defense against threats; (4) trust in the connection; (5) give gifts to the connection.
Farh et al. 1998	The existence of direct particularistic ties (i.e., guanxi) between an individual and others.	Chinese employment settings	Ties between the supervisor and subordinates: (1) former classmate; (2) relative; (3) same last name; (4) same natal origin; (4) former colleague; (6) former teacher/student; (7) former boss/ subordinate; (8) former neighbor.
Ambler et al. 1999	Guanxi is loosely translated as "connections."	Inter-province trading in China	"Relationships and guanxi" is operationalized into five subconstructs: (1) cooperation; (2) relationship valence; (3) relationship commitment; (4) prior guanxi; (5) personal friendship.
Luk et al. 1999	Relationship (strong social obligation to give favors to another person).	Direct selling in China	Guanxi is operationalized as a first-order reflective construct: Helping each other, owing me a favor, giving me face, being a good friend to me, expecting me to return a favor later, avoiding any embarrassment, and taking this opportunity to return me a favor. *(Trust is a separate construct from guanxi.)*
Wong and Chan 1999	Generally refers to (1) the product of Chinese favoritism and conflict/ harmony dichotomy or dilemma because of institutional weakness; (2) an efficient network mechanism on account of the poor development of property rights and contract law and (3) individual personal gain in a society of tight control.	Guanxi between Hong Kong businessmen and their counterparts in China	Survey questions cover: (1) value constructs: favoritism, opportunism and trust; (2) attitude constructs: uncertainty and dependence; (3) behavioral constructs: adaptation and continuity.
Lee et al. 2001	Close business relationships emphasizing reciprocal exchange of personalized care and favors.	Hong Kong firms randomly selected from the Hong Kong Chamber of Commerce Directory	Guanxi is measured as a first-order reflective construct: (1) I target the moral principle of brotherhood type of relationship; (2) I try to make of the principles of harmony; (3) To pay back a favor is more urgent than being in debt in face saving terms; (4) I encourage others to owe me a favor.
Su et al. 2003	Guanxi is defined as interpersonal connections. From a resource-dependence perspective, guanxi is viewed as long-term cooperation among business partners that contributes to organizational efficiency and sustained competitive advantage.	Chinese enterprises including state-owned enterprises, privately owned enterprises, collective hybrids, and joint ventures (the purchasing managers)	A good network of relationships, knowing the right people, developing the right contacts, social relationships with others, being in the "inside" circle, returning favor for favor, gift giving, maintaining a good relationship, frequent cooperation.
Chou et al. 2004	Guanxi refers to a particularistic tie or relationship bases.	The impact of intra-team guanxi networks on individual effectiveness in Taiwan	The name of each member in a team was listed in the first row, and types of social ties were listed in the first column. Respondents were asked to answer if they had this social tie with the team mate: (1) non-job relationship; (2) department relationship; (3) team relationship.
Lee and Dawes 2005	The concept of guanxi refers to interpersonal relationships and can be applied not only to kinship and friendship but also to social connections, such as dyadic relationships.	Buying firms' relationship with a supplier's salesperson	(1) Face preserving; (2) reciprocal favor; (3) affect
Leung et al. 2005	Guanxi means being flexible in managing terms in negotiation situations, harmony; favors, social interactions.	Buyer–seller relationship marketing, buyer's relationship with supplier	Being flexible in managing terms in negotiation situations, maintain harmony, do favors for one another, many social interactions.

Table 1. Literature on Traditional Guanxi and its Operationalization (Continued)

Study	Guanxi Definition	Research Context	Operationalization of Guanxi
Rao et al. 2005	Social exchange.	Study trust, social exchange, guanxi in China, the United States and Thailand	Items in a reciprocal exchange scale, covering a strong personal relationship, help without having to ask, continue to work with an associate, feel that this associate's problems are my own, social relationship other than work related, number of years you have known this associate, know this associate through family network/youth network/ business.
Ramasamy et al. 2006	A process of social interaction that begins with two persons but involves others at a later stage.	Knowledge management in Chinese enterprise	(1) Trust; (2) relationship commitment; (3) communication.
Luo et al. 2008	Guanxi is a Chinese term referring to interpersonal connections.	The influence of institutional networking (guanxi-based) in business	(1) Channel network; (2) governing network.
Wong 2007	Interpersonal relationship covering four dimensions: trust, bonding, reciprocity and empathy.	Relationship marketing focusing on the relationship among sales representatives and customers in the insurance industry	A total of 24 questions concerned with the internal and external effects of guanxi in business, covering: (1) trust; (2) bonding; (3) reciprocity; (4) empathy.
Zhou et al. 2007	Personal connections and informal social network.	The influence of social network in the context of global small and medium enterprises	Guanxi networks represent different types of network ties that include: (1) cultivating ties with local government agencies; (2) utilizing local social networks; (3) strengthening ties with local communities.
Liu et al. 2008	Guanxi is a Chinese term referring to interpersonal connections.	Buyer–seller relationships in Chinese household appliances sector	Being familiar with leaders of partners, always inviting each other to participate in annual dinners or other social activities, calling each other sometimes, doing personal favors, communicating with each other.

primary motivation for creating a guanxi-based relationship, guanxi may become entangled with corruption (Fan 2002; Fukuyama 2002).

It is important to differentiate weak and strong forms of the mutual entanglement between guanxi and corruption. Specifically, the strong form of entanglement exists when favor exchanges are the only focus of the relationship (e.g., bribery in exchange for a deal). Such "dark" guanxi often results in high social costs because of corruption and abuse of power (Fan 2002; Luo 2008). In contrast, a weak form of entanglement exists when guanxi does not lead to bribery and corruption (Luo 2008). This involves situations with family members and acquaintances where guanxi emphasizes healthy interpersonal ties without negative social costs (Björkman and Kock 1995; Luo 2008). The weak form of entanglement resembles trust-based relationships. Arms-length buyer–seller relationships in online marketplaces can be viewed as weak forms of entanglement since corruption and abuse of power are unlikely, and the only benefits are more favorable transaction terms, more accurate product information, or repeat transactions. We will detail further the application of these concepts in the context of online marketplaces later.

Similarities and Differences Between Guanxi and Related Constructs

Several constructs examined in the IS literature relate to guanxi, most notably *social capital* and *relationship marketing*. These two concepts emphasize the importance of interpersonal relationships and recognize social norms among the focal parties (Arias 1998; Coleman 1988; Fukuyama 2002). While guanxi, social capital, and relationship marketing maintain that social relations are created to facilitate business relations (Arias 1998; Coleman 1988; Wang 2007), they have different underlying mechanisms. Guanxi embodies a defensive mechanism, as it is formed as a reaction to distrust of legal and political authority and has a strong emphasis on the interpersonal exchange of favors (Arias 1998). Therefore, guanxi emphasizes individual-based capital and personal gain (Fan 2002). Social capital incorporates more normative social mechanisms where value benefits emanate from the public good (Coleman 1988). The public good approach implicit in social capital emphasizes collective benefits, such as online social communities (Wasko and Faraj 2005). Relationship marketing is firmly embedded in a formal structure of long-term business relationships (Wang

2007) and firm-level interests, such as profitability. The differences between guanxi and social capital are discussed by Zhai (2009), while Wang (2007) clearly distinguishes guanxi from relationship marketing. Although these concepts intersect in the goal of building social relationships to lubricate business relationships, their unique nature allows us to clearly distinguish among them, as we discuss in greater detail in Appendix B.

Conceptualizing Swift Guanxi in Buyer–Seller Relationships in Online Marketplaces

The swift nature of guanxi is similar to the concept of swift trust that refers to trust formed quickly in new temporary teams (Jarvenpaa and Leidner 1998; Jarvenpaa and Shaw 1998; McKnight et al. 1998; Meyerson et al. 1996). The analogy differs in that buyer–seller transactions in online marketplaces in China also have a strong social orientation. Therefore, we extend traditional guanxi to swift guanxi to emphasize how *an informal buyer–seller relationship can be established in online marketplaces that consists of mutual understanding, reciprocal favors, and relationship harmony*. These three dimensions of swift guanxi help ensure transactions in online marketplaces where arbitration is relatively difficult and buyers and sellers cannot enjoy the luxury of face-to-face interaction (versus traditional guanxi).

The first dimension of swift guanxi, *mutual understanding*, refers to buyers' and sellers' appreciation of each other's needs. Although a transaction is the ultimate goal of a swiftly created relationship in an online marketplace, mutual understanding is the first stage through which buyers and sellers initially transition to achieve this goal. This is consistent with prior research on traditional guanxi that treats communication leading to mutual understanding as a key dimension of guanxi (e.g., Leung et al. 2001; Liu et al. 2008; Ramasamy et al. 2006). Similarly, IS researchers (e.g., Nelson and Cooprider 1996) contend that mutual understanding is a critical element of a working relationship. Accordingly, we argue that communication helps buyers and sellers reach mutual understanding. Communication helps build swift guanxi to facilitate online transactions. Through this communication, buyers and sellers are able to achieve a mutual understanding of each other's expectations. Further, consensus on pricing, delivery, quality or other requirements will not be reached without mutual understanding in buyer–seller guanxi.

The second dimension of swift guanxi, *reciprocal favors*, refers to positive benefits from buyers' and sellers' interactions (e.g., Lee et al. 2001; Lee and Dawes 2005; Leung et al. 2005; Luk et al. 1999; Wong 2007). Compared to social capital and relationship marketing, reciprocal favors are a distinctive characteristic of guanxi. When buyers and sellers inherit the tradition of facilitating transactions by offering and receiving favors before, during, or after the transaction, it is natural for both buyers and sellers to treat reciprocal favors as a magical opening to effective transactions. In order to quickly establish a relationship and facilitate the transaction, the seller may be willing to offer the buyer a discount or a small gift. In a situation of relationship reciprocity, it is likely that the buyer will offer the seller positive ratings and comments in the feedback system. These reciprocal actions contribute to swift guanxi because they encompass and satisfy the respective interests of both buyers and sellers.

The third dimension of swift guanxi is *relationship harmony*, referring to mutual respect and conflict avoidance. Relationship harmony is a common component of guanxi (e.g., Lee et al. 2001; Leung et al. 2005; Su et al. 2005) because "relationship harmony is crucial in Confucian societies" (Li 2007, p. 9). Harmonious relationships help reduce some contracting costs associated with potential opportunism. Therefore, "guanxi cannot survive without harmony between two parties in a relationship" (Wu and Yong 2005, p. 284) and buyers and sellers need to respect each other (Lee and Dawes 2005; Luk et al. 1999). We argue that these characteristics of traditional guanxi are applicable to swift guanxi in buyer–seller relationships in online marketplaces. Relationship harmony can be realized if online sellers take care of their buyers through conversation and establish a pleasant and smooth communication during the transaction process (see Ghoshal and Moran 1996). Without mutual respect and relationship harmony in an online transaction, it is hardly likely that a buyer will make a purchase or a repurchase decision.

Besides these three similarities between swift and traditional guanxi, there are notable differences in terms of *relationship duration, resources, status,* and *role of technology in the communication*. First, the swift nature of guanxi in online transactions is a key difference. Contrary to traditional guanxi in long-term relationships, online buyers are unlikely to be willing to spend much time building guanxi with online sellers. If buyers cannot confirm product features from one seller, they may simply switch to another seller. In this sense, online buyers only seek to develop a quick and relatively shallow relationship with any given seller because (swift) guanxi only needs to be good enough for the buyer to obtain the most important information, develop psychological comfort with the seller, and then complete a transaction.

Second, online marketplaces bring together buyers and sellers in an open platform. Such online marketplaces have dramatically increased the availability of substitute products and

sellers. For instance, TaoBao has more than 800 million product listings.[3] The large choice of products allows buyers to have lower dependence on any particular seller. This large network of products is somewhat different from the normal business environment in China where access to restricted resources would normally require traditional guanxi between parties. Long-term commitment (e.g., Ambler et al. 1999) and high levels of dependence (e.g., Wong and Chan 1999), which characterize traditional guanxi, are less salient for swift guanxi in buyer–seller relationships in online marketplaces.

Third, traditional guanxi emphasizes the role of status of senior people or those in important positions. Status is important in traditional guanxi because senior people often have access to more resources than do junior people (Arias 1998; Xin and Pearce 1996). In contrast, in online marketplaces such as TaoBao, buyers and sellers have roughly equal status in the arms-length transaction relationship, and thus the exchange of power and favors for access to limited resources is not a major issue. Furthermore, the nature of resources is constrained by the context, where neither buyers nor sellers have access to any tangible resources. At best, a seller can offer a discount or a buyer can offer to pay a premium for higher quality service. The relative importance of the dimension of status thus differentiates traditional and swift guanxi.

Finally, traditional social communication is the key to building traditional guanxi. When face-to-face communication comes into play, it will be conducted in a face-to-face mode including dining and other social activities (Liu et al. 2008). Although communication is important in both traditional guanxi and swift guanxi in online marketplaces, the means to achieve effective communication are different. In online marketplaces, swift guanxi between buyers and sellers is developed with the aid of CMC tools. These tools help transform strangers into acquaintances, yet offline social activities rarely occur.

In summary, we argue that swift guanxi has both similarities to (Appendix C) and differences from (Appendix D) traditional guanxi. Based on these notable similarities and differences, we formally propose (1) mutual understanding, (2) reciprocal favors, and (3) relationship harmony as three unique dimensions that underpin the essence of swift guanxi between buyers and sellers in online marketplaces.

[3]http://news.alibaba.com/specials/aboutalibaba/aligroup/index.html.

Overview of the Research Model

Having conceptualized swift guanxi in buyer–seller relationships in online marketplaces in China, we next propose a research model, making use of the conceptual logic of MST[4] at a high level but are by no means engaging in a full blown test of the theory. Dennis et al. (2008) contend that the combined usage of multiple media can lead to better communication performance (namely shared understanding) and subsequently higher task performance. In MST, it is argued that "the purpose of communication is to develop shared understanding" (p. 579). At the same time, shared understanding is regarded as a measure of communication performance based on (1) hearing all voices that are in any way relevant, (2) stating the best arguments, and (3) addressing disagreements and agreements toward a better argument. MST offers a basis for theorizing how the use of CMC tools can facilitate high-quality communication among buyers and sellers and build swift guanxi. Extending MST to online marketplaces, we argue that the purpose of buyer–seller communication is first to achieve a mutual understanding of each other's needs in a transaction. Second, a harmonious relationship, achieved in a transaction through the reciprocal exchange of favors such as providing high quality information and resolving disagreements, can help build swift guanxi. Accordingly, building swift guanxi through its three proposed dimensions (i.e., mutual understanding, reciprocal favors, and relationship harmony) is based on a high-quality communication (communication performance in MST) that supports the ultimate goal of facilitating online transactions (task performance in MST). The integrative use of multiple media (IM, message box, feedback system) is proposed as a basis for enabling this communication.

MST theorizes that the use of multiple media, either concurrently or consecutively, can lead to better communication performance. This is true because media synchronization offers a combination of media capabilities that facilitate either the conveyance or the convergence process in communication. From the perspective of MST, IM primarily contributes to communication via the *convergence process* where verification and negotiation can help achieve a shared understanding. On the other hand, the message box and feedback system enable communication via the *conveyance process* since information from multiple sources (i.e., various buyers) can be stored or processed to shape a shared understanding. Therefore, we propose that the effective use of the three CMC tools (IM, message box, feedback system) creates a rich com-

[4]It is critical to understand that we intend to build a theory on swift guanxi, but do not intend to empirically test CMC theories such as MST (Dennis et al. 2008) or CMCIM (Lowry et al. 2009) in this study.

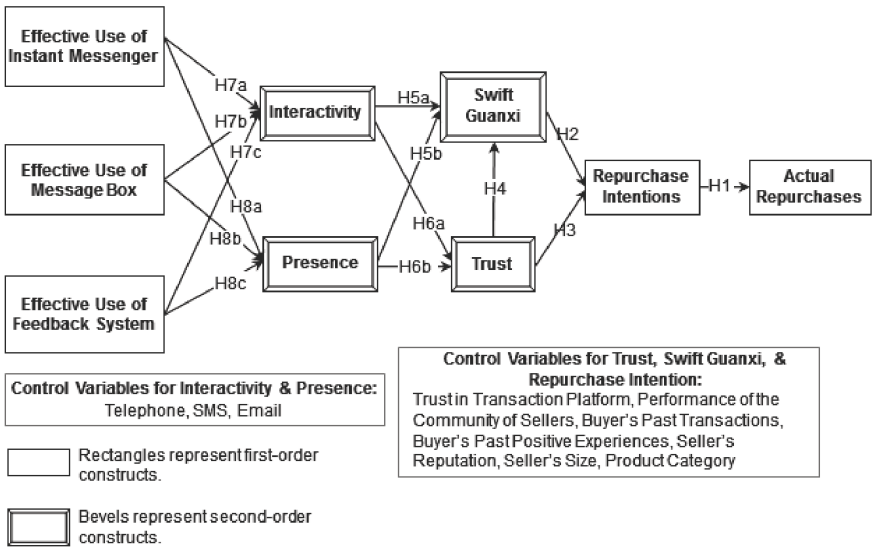

Figure 1. The Proposed Research Model

munication environment that can build swift guanxi via the processes of convergence or conveyance. Extending Pavlou and Gefen (2004), we define the *effective use of CMC tools* as the extent to which a buyer believes that the effective use of these three embedded CMC tools can facilitate communication among buyers and sellers in online marketplaces.

While there are many positive effects of CMC tools, we posit that the effective use of CMC tools can enhance *interactivity* and *presence*, which subsequently contribute to swift guanxi (and also trust). Interactivity and presence are natural effects of CMC, consistent with the reasoning of social interaction in the computer-mediated communication interactivity model (CMCIM) (Lowry et al. 2009). Besides, *trust* is considered an outcome of interactivity and presence (Gefen and Straub 2004). Trust, in turn, is regarded as a key determinant of swift guanxi, following the guanxi literature (Dunfee and Warren 2001; Wong 1998). We justify the hypotheses starting from the dependent variables (actual repurchases and repurchase intentions) as the direct effect of guanxi, followed by the antecedents of swift guanxi, while accounting for the effects of trust. The research model is shown in Figure 1, and the definitions of the study's principal constructs are shown in Table 2.

Effects of Swift Guanxi

Product uncertainty (e.g., Dimoka et al. 2012; Pavlou et al. 2007) and transaction risks (Pavlou 2003) characterize online buyers and sellers in online marketplaces as strangers to each other (Hou 2007). Business people in China are normally only willing to engage in transactions with people with whom they have built guanxi, either offline (Ambler et al. 1999; Arias 1998) or online (Hsiao 2003; Martinsons 2008; Sun 2005). The literature also shows guanxi to have an increasing effect on sales performance over time (e.g., Ambler et al. 1999). Thus, we argue that while swift guanxi is useful in explaining why buyers are willing to engage in transactions, this does not rule out that swift guanxi can accumulate over time and thus can have longer term effects as measured by repurchase intentions and actual repurchases. From a buyer's perspective, if mutual understanding, reciprocal favors, and relationship harmony can be swiftly built with the seller via communication, the willingness to (re)transact with a seller is enhanced. As a result, *repurchase intentions* is chosen as the immediate outcome of swift guanxi and will serve as a robust test of our model.

The hypothesis that intention leads to actual behavior has been extensively examined in IS research (e.g., Limayem et al. 2007; Pavlou and Gefen 2004). In lieu of justifying this well-known hypothesis, we focus on establishing a hypothesis about this particular effect of swift guanxi. We thus propose:

*H1: A buyer's **repurchase intentions** lead to his/her **actual repurchases** from the seller.*

*H2: A buyer's **swift guanxi** with a seller contributes to his/her **repurchase intentions** with the seller.*

Table 2. Principal Constructs and Their Definitions

Constructs	Definitions
Actual Repurchases	The frequency of actual re-transactions that a buyer conducted with a focal online seller.
Repurchase Intentions	A buyer's perceived likelihood of a re-transaction with a focal online seller.
Swift Guanxi	A buyer's perception of a quickly formed relationship with a seller that consists of (1) *mutual understanding* (appreciating each other's needs), (2) *relationship harmony* (respect and conflict avoidance), and (3) *reciprocal favor* (positive benefits based on each other's kind actions) in the context of online marketplaces.
Trust	The extent to which a buyer perceives in a seller's *ability* (i.e., skills, competencies, and characteristics in seller his/her products online), *integrity* (adhering to a set of principles that the buyer finds acceptable), and *benevolence* (i.e., doing good toward the buyer).
Interactivity	The extent to which a buyer perceives that the interaction with the seller can be actively controlled and the degree to which the communication is synchronized. Interactivity thus encompasses *active control* (the degree of active control parties have over the communication process), *two-way communication* (the extent to which the communication is reciprocal), and *synchronicity* (the degree to which their communication is synchronized).
Presence	The extent to which a buyer perceives the immediacy (i.e., physical distance) and intimacy (i.e., psychological distance) between a buyer and a seller. Presence includes *telepresence* (which refers to a buyer's perception of being present at a seller's location remote from the buyer's own location) and *social presence* (which refers to a buyer's perception of intimacy with a seller in terms of human contact, human warmth and sensitivity).
Effective Use of Instant Messenger	The extent to which a buyer believes that the effective use of the embedded *Instant Messenger tool* in the online marketplace can facilitate a communication among buyers and sellers.
Effective Use of Message Box	The extent to which a buyer believes that the effective use of the embedded *message box* in the online marketplace can facilitate a communication among buyers and sellers.
Effective Use of Feedback System	The extent to which a buyer believes that the effective use of the embedded *feedback system* in the online marketplace can facilitate a communication among buyers and sellers.

The Role of Trust in Online Transactions and Swift Guanxi

Besides swift guanxi, we also account for the role of *trust*, a well-known concept in IS research. The effect of trust is based on two parallel research streams. In the context of online marketplaces, Gefen and Straub (2004) suggest that trust can be nourished by interaction, justifying the contribution of social presence to trust building, which subsequently leads to higher purchase intentions. In parallel, the literature on traditional guanxi has viewed trust as the foundation of guanxi (Wong 1998). Notably, *trust* is the belief in a person's integrity, benevolence, and ability (Serva et al. 2005). The trust literature has shown that online trust in general leads to trust-related outcomes, such as transaction intentions and actual transactions (Gefen and Straub 2004; Pavlou and Gefen 2004), as well as repurchase intentions (Gefen et al. 2003). We thus account for the effect of trust on repurchase intentions in our context.

H3: A buyer's ***trust*** *in a seller contributes to his/her* ***repurchase intentions*** *with the seller.*

While trust covers the vendor dimensions of integrity, benevolence, and ability, guanxi emphasizes reciprocal favors, mutual understanding, and relationship harmony. Prior research has shown trust to be a foundation of guanxi (Wong 1998). The effect of trust on guanxi was also elaborated by Dunfee and Warren (2001, p. 192): "The individuals must interact, exchange some favors, build trust and credibility, and work over time to establish and maintain the relationship." We contend that trust helps build swift guanxi by creating the conditions on which buyers and sellers can quickly rely to build mutual understanding and achieve a harmonious relationship. Meanwhile, the literature has contended that trust can be built swiftly based on the categorical characteristics of trustees (Jarvenpaa and Leidner 1998; McKnight et al. 1998; Meyerson et al. 1996), such as TaoBao sellers. That means buyer trust can be formed even before establishing a relationship (i.e., guanxi) with one particular seller. When a buyer thinks that a seller is trustworthy, there is a higher chance that swift guanxi can be developed. We thus propose

H4: A buyer's ***trust*** *in a seller helps build* ***swift guanxi*** *with the seller.*

The Roles of Interactivity and Presence in Building Swift Guanxi and Trust

The literature argues that high quality interactions help build guanxi (e.g., Dunfee and Warren 2001). People involved in social and intimate communications build high-quality interpersonal relationships (Chen et al. 2004). In MST, Dennis et al. contend that the perception of a medium's synchronicity (one dimension of interactivity) is a key element of shared understanding. These two lines of research imply that swift guanxi between buyers and sellers in online marketplaces can be built with the effective use of CMC tools that support buyer–seller communications by facilitating *interactivity* and *presence*.

Building Swift Guanxi with Interactivity

Interactivity refers to the buyer's subjective perception of high-quality interaction with a seller. It encompasses (1) the degree of active control parties have over the communication process, (2) the extent to which the communication is reciprocal (two way), and (3) the degree to which their communication is synchronized. These three dimensions of interactivity, which were initially theorized, operationalized, and measured by Liu (2003), before subsequently being adapted by Teo et al. (2003) and Lowry et al. (2009), are used in this study.

Following CMCIM, interactivity is a key part of high-quality communication. This is in line with MST where shared understanding among communicators can be enhanced when the level of media synchronicity fits the communication process. The literature on interactivity posits that "human communication processes and outcomes vary systematically with the degree of interactivity that is afforded and/or experienced" (Burgoon et al. 2000, p. 34). These theoretical observations are consistent with the guanxi literature (Hsiao 2003), which states that high quality interaction is necessary for building guanxi. In online marketplaces, buyers and sellers often use CMC tools to interact with each other and "get into each other's mind in more depth" (Ji and Meeker 2005, p. 20). Research on online markets has also shown how interactivity can be leveraged to convert visitors into buyers as well as help sellers build high-quality relationships with buyers (e.g., Ghose and Dou 1998; Teo et al. 2003).

In online marketplaces, a seller's storefront usually offers basic information about products, payment, and delivery. Any other buyer–specific, personalized requests require direct buyer–seller communication. Details, such as product features, promotion information, and seller's services, can be specified during the communication process. Through a dyadic and interactive communication process, buyers and sellers can listen to each other, resolve disagreements, negotiate details, and ultimately reach an outcome that is satisfactory to both parties (i.e., shared understanding or communication performance, following MST). This is an interactive process that helps develop mutual understanding between the buyer and the seller. Through this interactive communication, building swift guanxi becomes possible. Relationship harmony can be achieved through smooth interaction, such as allowing the transaction parties to lead the conversation (i.e., a high level of control in interactivity), echoing each other, and offering an appropriate amount of information for transaction purposes (i.e., synchronicity and two-way communication in interactivity). Such interactive communication can help achieve conversational coherence, which in turn contributes to a harmonious relationship. Mutual favors can also be achieved with sellers offering small discounts or gifts to buyers and buyers offering positive feedback to sellers. Thus, building swift guanxi depends on the level of interactivity among buyers and sellers. We propose

*H5a: A buyer's **interactivity** with a seller contributes to his/her **swift guanxi** with the seller.*

Building Swift Guanxi with Presence

Besides interactivity, presence is the other independent variable in the CMCIM that affects the communication process. In a broader sense, *presence* refers to the perception of intimacy or being close to another person (Lowry et al. 2009; Short et al. 1976). Presence has two dimensions: *social presence* (i.e., the feeling of psychological intimacy with a remote person) and *telepresence* (i.e., the feeling of physical proximity to a remote person). Presence reflects the quality of the communication medium and the extent to which it enhances the sense of psychological intimacy and physical proximity. Social presence theory (Short et al. 1976) also stresses the role of presence in interpersonal relationships. People in general are more likely to build a rich interpersonal relationship in a sociable than in a remote environment (Steuer 1992). Other studies (e.g., Chen et al. 2004; Tu 2001) showed that people in social communications are more likely to build high-quality relationships.

Applying the concept of presence in online marketplaces, telepresence refers to a buyer's perception of being present at a seller's virtual location (even though the seller is physically remote from the buyer), while social presence refers to a buyer's perception of intimacy with a seller in terms of human

contact, warmth, and sensitivity. Since online sellers may need to deal with buyers' questions, a higher degree of presence is more likely to result in a buyer feeling that his/her expectations and service needs are met. In this way, a buyer can more easily and quickly establish mutual understanding with a seller. Similarly, a sense of mutual understanding creates an atmosphere within which buyers and sellers can more easily reciprocate mutual favors. If the sense of being physically present can be simulated by CMC tools, buyers can experience a positive experience, such as relationship building. In line with social presence theory and CMCIM, we argue that buyers and sellers are more likely to reach consensus and harmony in their relationship when the online environment is warm and sociable. In contrast, if buyers view online transactions as impersonal interactions with a "machine" (i.e., no sense of telepresence or lack of social presence), it is less likely that buyers and sellers can develop a sense of mutual understanding, reciprocity, and relationship harmony with each other. We thus propose

*H5b: A buyer's sense of **presence** with a seller contributes to his/her **swift guanxi** with the seller.*

The Effects of Interactivity and Presence on Trust

After explaining the effects of interactivity and presence on building swift guanxi, we account for their effects on building trust. We follow Gefen and Straub (2004, p. 407), who argue "trust relates to other people and is nourished through interactions with them." Via interaction with buyers, the seller can demonstrate her product knowledge, show concern for buyers' needs, and prove her integrity through real-time communication. Since trust can be lubricated with interactive communication, we propose

*H6a: The buyer's **interactivity** with a seller contributes to his/her **trust** in the seller.*

Research has indicated that shopping tasks are conducted better when the involved parties are present in the richer medium. For example, Gefen and Straub (2004) showed that online trust, especially the belief in benevolence, can be increased by the perception of social presence. Such a relationship exists because most human beings inherently prefer a warm and social environment and thus constructive interactions with other people are conducive to trust formation. Consistently, social presence was found to be critical for enhanced selling in online marketplaces (Cyr et al. 2009). Extending this logic in our study, the immediacy and intimacy created by CMC tools facilitate the transaction, emulating the processes that occur in physical markets. These arguments are in line with the statement that "trust needs touch" (Handy 1995, p. 46), albeit, in this context, afforded vicariously by CMC tools.

*H6b: A buyer's sense of **presence** with a seller contributes to his/her **trust** in the seller.*

The Role of CMC Tools in Shaping Interactivity and Presence

Dennis et al. contend that a medium's processing capabilities "influence the way individuals can transmit and process information and the degree they can work—their level of synchronicity" (p. 581), a key dimension of interactivity. Meanwhile, Lowry et al. (2009) suggest that interactivity and presence are two non-negligible effects of CMC because interactivity is "something that a user *perceives* after using a technology or going through a process" (pp. 159-160) and "CMC allows an extension of virtual presence" (p. 162) from CMC usage. Extended to online marketplaces, the physical separation among buyers and sellers impedes face-to-face communication, while poor buyer–seller communication is a major deterrent of online transactions (Resnick and Zeckhauser 2002).

The Role of CMC Tools in Enhancing Interactivity

Buyers can select the seller with whom they wish to interact, and they can maintain control over the communication process via the three proposed CMC tools (Figure A1). First, IM offers a two-way private channel for buyers and sellers as in face-to-face communication (Figure A2). Based on media richness theory (Daft and Lengel 1986), IM is characterized as a rich CMC technology that is especially useful for effective communication (Cho et al. 2005). MST contends that a medium characterized by transmission velocity as well as a rich symbol set can enable synchronicity, a key dimension of interactivity. With an IM, pictures of products can be shown simultaneously by sellers, while buyers' questions can be informally integrated into a one-to-one interaction. Thus, IM offers buyers an interactive channel and another form of soliciting real-time help, enabling the exchange of product-related information and transaction problem-solving. This is a process of verification and negotiation in convergence communication, as theorized by Dennis et al. in MST. The effective use of IM in online marketplaces through a two-way, highly controllable interaction channel can be enabled to facilitate verification and negotiation processes during transactions, thus enhancing interactivity.

Second, the message box offers buyers an opportunity to initiate a conversation with a seller on product-related issues. In TaoBao, a dialog box for buyers who wish to ask questions is included in each product page (Figure A3). The communication can be very specific, for example an inquiry about a product's picture, price, or availability. Once a seller posts a reply, it is displayed in the buyer's message box with a hyperlink pointing to the focal product. Besides, buyers can choose to post such enquiries and conversations under the product list on the seller's site. Other buyers can then view such messages. The message box functions as a product-specific communication system. Although the message box may be a less synchronous and rich medium relative to IM, it provides an alternative communication channel for buyers to initiate enquiries. Allowing buyers to choose whether to be anonymous or not enhances their level of control. Also, the message box can serve as a retrospective message board (Dennis et al. 2008) for other potential buyers to review enquiries and information on a specific product from other buyers. MST suggests that individuals need to examine and reason information from various sources to reach a conclusion, coined as a communication conveyance process, to manage retrospective information and achieve mutual understanding and high-quality communication. In line with MST, the message box in the online marketplace provides buyers with a better opportunity to obtain conveyed information from the seller and peer buyers (multiple sources), thus contributing to the conveyance process in the buyer–seller interaction and accordingly helping achieve high-quality communication.

Third, the feedback system enables buyers to examine a seller's past transactions by reviewing her feedback profile (Figure A4) before the transaction. After a transaction, both buyers and sellers can rate each other and write detailed text comments about the focal transaction (Pavlou and Dimoka 2006). This means that the feedback system can be viewed as a two-way communication tool specific to ratings and text evaluations. We contend that using the feedback system is a process with a high-level of control because buyers can disseminate positive or negative comments on the feedback system according to their transaction experiences. Following CMCIM, this two-way, highly controllable communication is necessary for efficacious interaction. Other buyers can also observe and gather information based on the rich and detailed information from multiple sources (all past buyers), which is characterized as an important process containing retrospective information to establish understanding based on the conveyance communication process (Dennis et al. 2008). According to MST, individuals will reach incorrect conclusions without adequate conveyance of information. From this perspective, the feedback system effectively facilitates the information conveyance process. By accumulating and disseminating information about a seller's transactions, the effective use of the feedback system helps aggregate individual pieces of transaction feedback into an interactive communication. We thus propose

H7a: *A buyer's effective use of the **instant messenger (IM)** in the transaction with a seller contributes to his/her **interactivity** with the seller.*

H7b: *A buyer's effective use of the **message box** in the transaction with a seller contributes to his/her **interactivity** with the seller.*

H7c: *A buyer's effective use of the **feedback system** in the transaction with a seller contributes to his/her **interactivity** with the seller.*

The Role of CMC Tools in Enhancing Presence

In CMCIM, it is suggested that presence is a non-negligible outcome of CMC because "CMC allows an extension of virtual presence" as a result of CMC tools (Lowry et al. 2009, p. 162). In MST, presence is also one of the "*outcomes* of communication processes" (Dennis et al. 2008, p. 586). Integrating the literature (e.g., Khalifa and Shen 2004; Short et al. 1976; Walther 1995), we argue that *presence* can be enhanced by CMC tools. In online marketplaces, CMC tools can alleviate the sense of physical distance among buyers and sellers. The use of CMC tools allows buyers to sense the virtual presence of sellers and "the consequent appreciation of an interpersonal relationship, despite the fact that that they are located in different places, may operate at different times and that all communication is through digital channels" (Lowry et al. 2006, p. 633). Although these three CMC tools do not offer the same level of richness (see Daft and Lengel 1986), each can produce visual social cues about sellers in an online marketplace and thus help bridge buyers' perceptions of physical and psychological distance with sellers.

First, in terms of *IM*, the effective use of contextual visual cues can lead to mutual awareness, rendering IM conversations similar to traditional face-to-face communications. IM is considered a medium that enables faster information transmission in the *convergence* process of the communication (Dennis et al. 2008). The flashing avatar of IM can signify a seller's availability. This is a process in line with CMCIM where presence is enhanced by CMC tools. Similarly, in MST, it is suggested that symbols (such as smileys, flashing icons, video) may affect the development of social perception.

In contrast, people may feel that others with whom they communicate "become less like real people and more like objects" (Dennis et al. 2008, p. 586). Thus, the use of symbols in IM can give buyers a high level of presence.

Second, the *message box* provides a socially translucent process that mimics a real-life interaction among buyers and sellers, yet also provides a time buffer. As Dennis et al. argue, not every communication task needs instant feedback. When people do not need to interact synchronously, a medium that allows a time buffer allows people to digest information, leading to better communication. Buyers can review past buyer–seller conversations using the message box to learn about products and sellers. The reprocessability of media provides a memory that can help people retrieve past activities. The message box can vividly display all one-to-many dialogs on a product from current and potential buyers. The effective use of the message box contributes to the *conveyance* process in which people can conduct a retrospective review of product questions and answers to create a sense of being with others. Answering buyers' enquiries helps sellers foster presence because their responses offer immediacy. The question-and-answer feature of the message box thus helps build swift guanxi with the seller.

Third, by accumulating and storing buyers' after-sale evaluations, the *feedback system* enables buyers to aggregate all comments together in a single location. Dennis et al. argue that some media (e.g., e-mail) enable people to revisit prior messages and provide a form of memory that can help others understand past activities. These characteristics are referred to as the reprocessability of a medium that facilitates the *conveyance* process where information from many sources is disseminated. In online marketplaces, the feedback system displays information to buyers. Although buyers and sellers are physically dispersed, aggregate feedback messages from other buyers create an environment that mimics human contact, thus allowing an extension of virtual presence in the transaction process in an otherwise impersonal and distant environment, thus increasing the buyers' sense of presence.

H8a: *A buyer's effective use of the **instant messenger (IM)** in the transaction with a seller contributes to his/her sense of **presence** with the seller.*

H8b: *A buyer's effective use of the **message box** in the transaction with a seller contributes to his/her sense of **presence** with the seller.*

H8c: *A buyer's effective use of the **feedback system** in the transaction with a seller contributes to his/her sense of **presence** with the seller.*

Control Variables

To test the research model, we also include several control variables known in the literature to affect interactivity, presence, trust, swift guanxi, repurchase intentions, and actual repurchases (Appendix E).

Research Methodology

Measurement Development of Swift Guanxi

In order to develop a measure of swift guanxi, we followed the procedures outlined by Straub et al. (2004), including literature review, expert panel or judge discussion, content validity ratios calculation, and Q-sorting to assure content validity. Overall, our results underscored the swift nature of guanxi in online marketplaces, such as TaoBao, as well as indicating that the scope of swift guanxi for online marketplaces was restricted to three constructs: mutual understanding, reciprocal favor, and relationship harmony. Details of our measurement development are documented in Appendix F.

Measurements of Other Principal Constructs

Effective Use of CMC Tools: Adapting the scale of perceived effectiveness of institutional structures (Pavlou and Gefen 2004), we developed scales for the effective use of IM, message box, and feedback system. We argue that without the *effective* use of CMC tools, it is very unlikely that buyers can actually perceive their value.

Interactivity: Following Liu (2003), we used the measures of (1) active control, (2) two-way communication, and (3) synchronicity to form the second-order formative model of interactivity.

Presence: We adapted two first-order factors—telepresence and social presence (Khalifa and Shen 2004; Short et al. 1976)—to form the second-order construct of presence.

Trust: Trust in the seller was measured with existing scales of trust from Serva et al. (2005), covering the buyer's evaluation of the seller's trustworthiness in terms of integrity, benevolence, and ability.

Repurchase Intentions: Following Pavlou and Gefen (2004), we measured repurchase intentions with the buyer's intentions to purchase again from the same focal seller.

Table 3. Description of Data Collected from Different Sources (Secondary Data)

Secondary Data	Descriptions
Seller's Online Status	Seller's status of being online on WangWang, indicating real-time communication availability in the periods of morning (00:01-12:00), afternoon (12:01-18:00) and evening (18:01-24:00), which are archival data captured from the seller's TaoBao website to validate the instrument data
Feedback Ratings	The rating score on the seller's feedback system collected directly from the seller's website
Product Category	The product category of the seller's products. The most common product category is coded as 1 and the least common product category is coded as 13
Seller Size	The number of products offered by the seller, collected directly from the seller's website
Performance Evaluation	The average customer evaluation of seller performance in terms of product description quality, service quality, and shipment quality on a 0-5 scale, directly collected from the seller's website

Actual Repurchases:[5] Actual repurchases were measured by the number of actual transactions conducted with the focal seller. It is an archival record captured directly from the TaoBao website.

As control variables, we captured the buyer's use of other CMC tools with the seller (such as telephone, e-mail, SMS), buyer's trust in the transaction platform, and number of past transactions with the seller prior to the instrument, as reported by the buyers. We also collected data on product category, size, feedback ratings, and performance evaluation with archival data from the sellers' website (Table 3).

Research Design and Data Collection

We used a longitudinal field study methodology with repeated observations of the same field study participants in TaoBao's online marketplace. As this study focuses on buyer–seller swift guanxi and buyer repurchase behavior, we first collected data from first-time buyers from one particular seller using a questionnaire instrument and then gathered archival data on actual repurchases from the same buyers four months later from TaoBao. The design of a two-stage longitudinal data collection with primary and secondary data provides evidence of strong internal validity (see Straub et al. 1995).

After developing the research instrument, we invited two indigenous Chinese with experience as buyers on TaoBao to review the instrument and offer feedback. A pilot study was also conducted with a sample of five TaoBao users to collect small-scale data and get feedback on the scale items. The main study was then initiated. Two research assistants followed the data collection protocol to collect primary and archival data from the web pages of buyers and sellers. For each of TaoBao's 64 product categories, we clicked on the storefronts of the first 10 sellers, which were randomly provided by TaoBao's search engine without any sorting criteria. On the sellers' storefronts, we clicked on their feedback profile. This enabled us to identify the user names and WangWang contacts of buyers who had transacted with each of these sellers. We used this contact information to invite four buyers from each seller (n = 2,560 buyers from 640 sellers' feedback profiles) to participate in an online questionnaire. We offered RMB20 (approximately U.S. $2.50) as an incentive for participation. The buyers were asked to recall their most recent first-time transaction experience with a seller and respond to the instrument items about that focal seller (Appendix G). The instrument explained that all the questions related to "the seller" refer to the focal seller in the most recent first-time transaction experience while the term "we" referred to the buyer and the focal seller. We asked each respondent to fill out the instrument based on his/her most recent transaction, keeping in mind that swift guanxi covers mutual understanding and therefore reciprocal favors and relationship harmony between the buyer and the seller cannot be fully developed before a transaction. Only when a transaction is completed can swift guanxi be better evaluated. This design is also consistent with the practice used in the traditional guanxi literature. From the 2,560 invitations, a total of 365 valid responses were received (14.3% response rate) over a four-week period.

In a follow-up study (conducted four months later to avoid potential noise in the intention–behavior relationship), we contacted the same set of respondents to access their purchase records archived in the TaoBao website and then recorded their actual repurchases from the same seller. After removing invalid responses, we collected a total of 338 matched responses and TaoBao website archived records based on

[5]The methodological literature (e.g., Cook and Campbell 1979; Ringle et al. 2012) highlights the threat of mono-method bias, a bias that prevents estimating measurement error with single items. Our dependent variable, actual repurchases, is archived in the TaoBao website. We recognize that there is still weakness in estimating the measurement error with a single-item measure and encourage future researchers to employ multiple measurement items whenever possible.

Table 4. Demographics

Buyer	Items	Percentage	Buyer	Items	Percentage
Gender	Male Female	38.2% 61.8%	Education	Below College Junior College Bachelor or above	15.4% 36.7% 47.9%
Age	16-20 21–30 31–40 41 and above	1.2% 60.1% 30.8% 8.0%	Annual Household Income (US$1 = RMB6.83)	Under RMB40,000 RMB40,001–70,000 RMB70,001–100,000 RMB100,001 or above	20.7% 34.6% 23.7% 21.0%
Online purchases in past year (# of times)	1-5 6-10 11-15 15-20 21 or above	9.8% 17.8% 14.5% 11.8% 55.9%	Number of Contacts in WangWang	None 1-20 21-50 51-99 100 or above	3.3% 49.4% 26.0% 8.9% 12.4%

their transaction history. Demographics of these buyers are shown in Table 4.

To examine sample representativeness, we first compared the respondent demographics with those of current online consumers in China (CNNIC 2011) (Appendix H). The demographic data (except for gender) and the focal product categories were consistent with those from CNNIC, with less than 5 percent deviation in terms of percentage count. We also compared the respondents' demographics with those from Alexa.com on TaoBao. Consistent with our sample, Alexa.com[6] states that the typical user of TaoBao.com is female, aged 25–34, with a college (bachelor's degree) education. These comparison results suggest that sample representativeness is not an issue for this study.

We also followed Armstrong and Overton (1977) to assess nonresponse bias by examining whether (1) the demographics of the participants who responded in the first 2 weeks were similar to those who responded in the second 2 weeks (i.e., surrogates for nonresponders), and (2) early and late responses were similar across the principal constructs. Both tests showed that the construct means were not significantly different in these groups, and therefore response bias was likely not a serious concern.

Data Analysis

We used SPSS and partial least squares (PLS), as implemented in PLS Graph version 03.00, Build 1130 (Chin 2003),[7] to validate the first-order constructs (Appendix I) and test the formative factors (Appendix K). We validated the primary data along with the secondary data from TaoBao (Appendix L). These tests provided evidence of measurement reliability and validity for all constructs. Our analyses (Appendix M) also showed that common method bias and multicollinearity are not a serious concern in our study. Overall, these tests and analyses validate the research instrument (Appendices I, J, K, L, and M).

The structural model was tested with PLS Graph 03.00. We used the bootstrapping resampling method with 300 samples and n = 338 cases per sample in the full model. Figure 2 shows the full structural model including the formative second-order factors and control variables. As shown in Figure 2, the results indicate that the overall research model was supported. The effective use of these three CMC tools also significantly enhanced presence with path coefficients of 0.23 (H8a: $p < 0.01$), 0.15 (H8b: $p < 0.01$), and 0.24 (H8c: $p < 0.01$) respectively, explaining 20% of its variance. The

[6]http://www.alexa.com/siteinfo/taobao.com# (retrieved December 31, 2011).

[7]Recent discussions on PLS-SEM (e.g., Gefen et al. 2011; Goodhue et al. 2012; Ringle et al. 2012) provided an overview of the reasons to use PLS-SEM in IS research. For this study, the choice of variance-based PLS-SEM (such as PLS Graph) over a covariance-based SEM tool (such as LISREL) was chosen for the following reasons: First, PLS-SEM is "primarily for exploratory work and for prediction" (Ringle et al. 2012, p. xi). Similarly, Chwelos et al. (2001, p. 311) point out that "PLS is better suited when the focus is on theory development, whereas LISREL is preferred for confirmatory testing of the fit of a theoretical model to observed data." Our study is exploratory, focusing on theory development of swift guanxi rather than testing an existing theory. Second, PLS-SEM can easily address statistical identification and convergence problems with formative constructs (e.g., Chin 1998; Petter et al. 2007; Ringle et al. 2012). While a covariance-based SEM tool uses a covariance structure analysis due to the strict assumptions it imposes (Chwelos et al. 2001), the current study includes formative constructs that cannot be readily modeled using covariance analysis. Third, PLS is suitable for estimating causal models "especially when complex models and secondary data are involved" and "is often not a good match for CB-SEM" (Ringle et al. 2012, p. xii). Our dependent variable, *actual repurchases*, is based on archival data from TaoBao, and PLS is thus a good match with such secondary data.

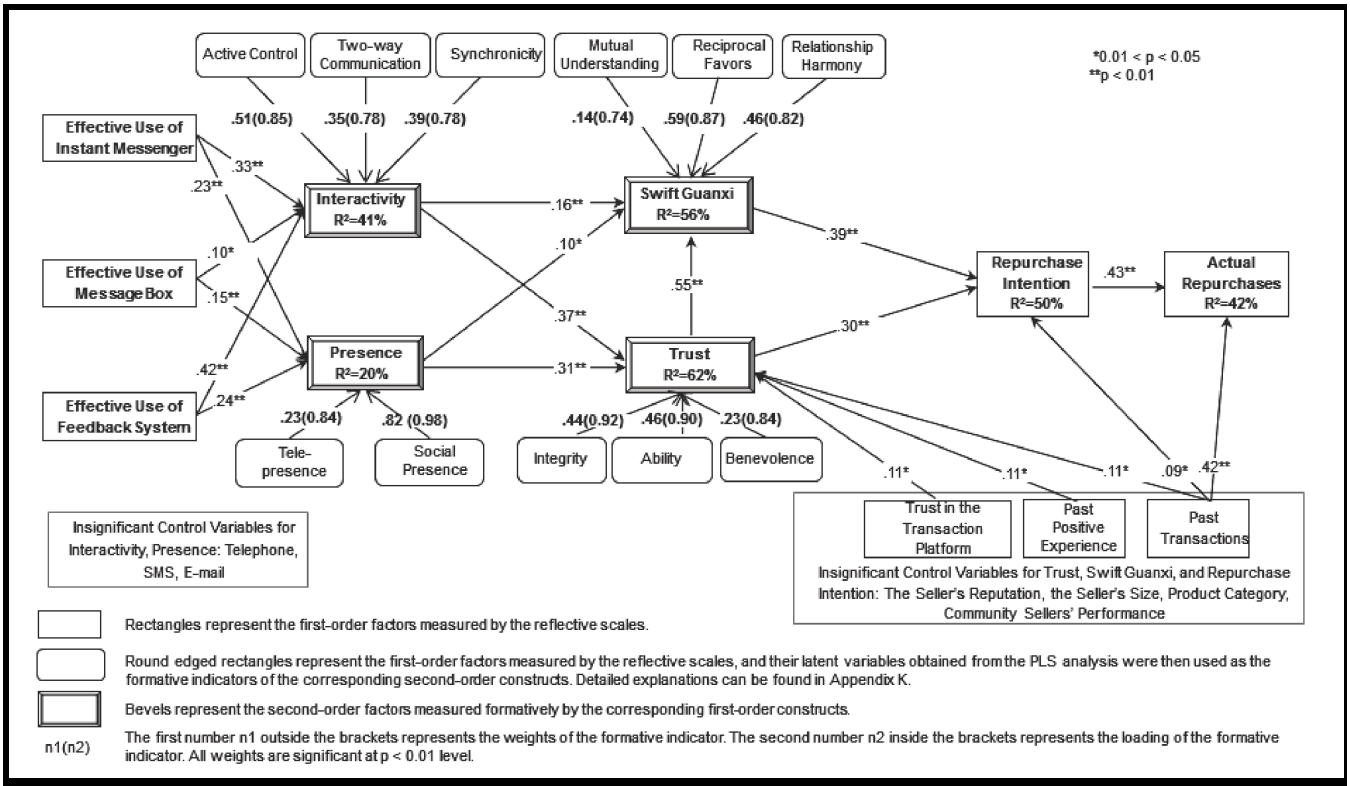

Figure 2. PLS Results of Structural Model with Formative Measures (n = 338)

effective use of IM (H7a: $\beta = 0.33$, $p < 0.01$), message box (H7b: $\beta = 0.10$, $0.01 < p < 0.05$), and feedback system (H7c: $\beta = 0.42$, $p < 0.01$) significantly affect interactivity, explaining 41 percent of its variance. The data showed that trust was predicted by interactivity (H6a: $\beta = 0.37$, $p < 0.01$) and presence (H6b: $\beta = 0.31$, $p < 0.01$), yielding an explained variance of 62 percent. Swift guanxi was predicted by interactivity (H5a: $\beta = 0.16$, $p < 0.01$), presence (H5b: $\beta = 0.10$, $0.01 < p < 0.05$), and trust (H4: $\beta = 0.55$, $p < 0.01$), with a total variance explained of 56 percent. Both trust (H3: $\beta = 0.30$, $p < 0.01$) and swift guanxi (H2: $\beta = 0.39$, $p < 0.01$) had significant effects on intentions. Finally, repurchase intentions led to actual repurchases (H1: $\beta = 0.43$, $p < 0.01$). Along with past transactions ($\beta = 0.42$, $p < 0.01$), total variance explained in actual repurchases was 42 percent. Among the control variables, only trust in the transaction platform, past positive experience, and past transactions showed significant effects in the research model. Accounting for the control effect of past transactions, the variance explained is 42 percent. In sum, the R^2 scores for all dependent variables and the high factor loadings yielded an adequate goodness-of-fit for the overall research model.

In order to further verify the validity of the theoretical model under various situations, we also conducted additional analyses and robustness checks, as shown in Appendices N, O, P, and Q.

Discussion

Key Findings and Contributions

This research has three major findings and accordingly makes the following key contributions: First, online marketplaces are usually associated with impersonal one-time transactions rather than traditional face-to-face transactions. However, our study provides evidence of buyer's swift guanxi with a seller. Swift guanxi has the dimensions of mutual understanding, reciprocal favors, and relationship harmony. Extending the guanxi literature from traditional face-to-face relationships to online marketplaces, this study contributes to the conceptualization, operationalization, and measurement of swift guanxi. Second, our research model shows how buyers and sellers can build swift guanxi in first-time transactions in online marketplaces, which is an important step toward converting one-time buyers into repeat buyers. Our results show that swift guanxi is a significant predictor of buyers' actual repurchases over time. Third, a set of three CMC tools (IM, message box, and feedback system) is shown to help buyers build swift guanxi

with a seller mediated by interactivity, presence, and, subsequently, trust. Taken together, this study not only shows the existence of swift guanxi in online marketplaces in China, but it also shows that swift guanxi can exert significant positive effects on the online transaction experience among buyers and sellers.

Implications for Theory

This study has implications for (1) conceptualizing swift guanxi in online marketplaces in China, (2) explaining the effects and antecedents of swift guanxi, (3) highlighting the roles of CMC tools, and (4) identifying differences between Chinese and Western marketplaces. We discuss each implication below.

Implications of the Conceptualization of Swift Guanxi in Online Marketplaces

The primary contribution of this research is to introduce the concept of swift guanxi in online marketplaces with an emphasis on China. Despite establishing trust with the aid of IT-enabled tools, such as escrows, credit card assurances, and third-party guarantees (Pavlou and Gefen 2004), buyer–seller *relationships* are seldom encountered and may even be discouraged in online marketplaces. Perhaps the reason why researchers have not previously examined guanxi in online marketplaces is because it was assumed not to exist in mostly single-shot online transactions and because guanxi was thought to be restricted to traditional face-to-face relationships. In this study, we have introduced swift guanxi as a potential driver of the success of online marketplaces by facilitating repeat transactions. Based on a comprehensive review of the traditional guanxi literature and theoretical discussions on how traditional guanxi can be extended to online marketplaces, we offer an initial theoretical attempt to extend the novel concept of guanxi to the context of online marketplaces. By explaining the similarities and differences between swift guanxi and various other related concepts (social capital, relationship marketing, traditional guanxi, dark side of guanxi), we have conceptualized the nature of swift guanxi and its three dimensions (mutual understanding, reciprocal favor, and relationship harmony) in online marketplaces. The proposed conceptualization of swift guanxi can offer guidance to future research on the concept of guanxi by offering an initial theoretical foundation.

Implications of the Effects and Antecedents of Swift Guanxi in Online Marketplaces

Trust is a well-known predictor of online transactions. Despite several control variables that account for the effect of past transactions and past experiences on trust, the effect of swift guanxi on repurchase intentions and actual repurchases is still significant. This means that repeat transactions, which are highly desirable for sellers (Kotler 2000), can be achieved in online marketplaces with the aid of swift guanxi. Our data highlight the role of relational elements among buyers and sellers in online marketplaces and testify to the value of swift guanxi. Dyadic swift guanxi does not compete with the well-established view of institutional structures and trust in the community of sellers (e.g., Pavlou and Gefen 2004). In contrast, the institutional view of building trust focuses on the community of sellers (Gefen and Pavlou 2012), while buyer–seller swift guanxi offers a social lens to the building of effective online marketplaces, which is imperative when effective institutional structures have yet to be developed or are unreliable.

As this study attests, the interaction needed for building swift guanxi can be afforded by CMC tools. However, our study shows that the mere provision of a basic IT-enabled trading platform is insufficient. Specifically, TaoBao's capability to facilitate swift guanxi can be partly explained by the existence of an embedded set of CMC tools that help buyers and sellers engage in rich and interactive communications, thus giving buyers a sense of presence and interactivity for online sellers. This finding has implications for understanding how swift guanxi can be developed in online marketplaces with the aid of CMC tools, and it also has implications for how CMC tools can be designed to build richer buyer–seller relationships.

Finally, the research model established in this study utilized a longitudinal field study for showing how buyers and sellers can build swift guanxi in their first-time transactions and how the swift guanxi influences their repurchase behavior in online marketplaces. This is an indispensable step to converting first-time buyers into repeat buyers. Such findings from our lagged longitudinal data field study included data from both first-time and repeat transactions, a condition particularly important for specialty markets, such as coins or stamps, in which sellers and buyers are likely to encounter each other many times. The existence of swift guanxi in the first-time transaction lays out an important cornerstone for both buyers and sellers to further develop a deeper relationship that can facilitate repeat online transactions over time.

Implications for the Role of CMC Tools in Online Marketplaces

The physical separation between buyers and sellers in online marketplaces impedes face-to-face buyer–seller communication and makes it relatively difficult to nurture a rich buyer–seller relationship. This study shows that a comprehensive CMC platform can bridge the perception of physical separa-

tion between buyers and sellers and help build buyer–seller swift guanxi by enabling interactivity, presence, and trust. The proposed CMC tools facilitate high-quality communication and show that "the use of multiple media, either concurrently or consecutively, will lead to better communication performance" (Dennis et al. 2008, p. 595). When there is a need for social relationships, people will find a way to leverage the technology available. Online sellers are no longer automatic vending machines.

In the additional analyses, the IM tool was found to be most effective in contributing to synchronicity or two-way communications, while the feedback system is more effective in enhancing active-control communication and social presence. Notably, an IM can signal a seller's availability for spontaneous communication, while the messages displayed in the message box and feedback system vividly portray a real-life transaction process. These results confirmed CMCIM, where interactivity and presence are regarded as natural extensions of using CMC tools. Furthermore, these results provide strong evidence that IM primarily facilitates the convergence process by enabling the verification and negotiation process in buyer–seller communications, while the message box and the feedback system primarily facilitate the conveyance process in buyer–seller communications by delivering retrospective information, as noted by MST. With the concurrent use of these three CMC tools, the integrated communicative environment creates a feeling of intimacy, as noted by Gabriel Marcel: "even if I cannot see you, if I cannot touch you, I feel that you are with me" (quoted in Hu et al. 2006, p. 25). An online seller who does not have a physical presence in the context of online marketplaces but has a rich human contact can help buyers build swift guanxi by relying on CMC tools. Finally, our data indicated that, on average, buyers spent about half an hour in IM chatting with the focal seller, suggesting that buyer–seller guanxi can be swiftly developed in the online marketplace with CMC tools. In this sense, CMC tools help quickly transform strangers into guanxi-linked acquaintances.

In this study, we relied upon and integrated the overarching tenets of MST and CMCIM to examine the role of CMC tools in online marketplaces. This study extended these communication performance theories by articulating how three CMC tools facilitated the convergence and conveyance processes of buyer–seller communication. Furthermore, this study examined the technological antecedents of communication performance theories by including three specific CMC tools. IM, message box, and feedback system are shown to help build swift guanxi by enhancing interactivity, presence, and trust. By integrating MST and CMCIM theories and linking with the guanxi literature, we strove to explain how mutual understanding may be developed (in the context of online buyer–seller relationships), a process termed a "complex issue" in MST (Dennis et al. 2008, p. 595). Also, in responding to MST's call for further understanding the relationship between communication processes and media capabilities, we theoretically proposed and empirically demonstrated how these three CMC tools are used in online buyer–seller communications. By integrating the CMC tools, the socially interactive nature of CMC tools is used to overcome the inherent deficiency in building swift guanxi in online marketplaces.

Implications for Identifying Differences Between Chinese and Western Online Marketplaces

Faced with severe competition, sellers can potentially achieve a competitive advantage through guanxi in online marketplaces. A comprehensive set of CMC tools, such as those offered by TaoBao, offers sellers the opportunity to build swift guanxi with buyers. Since many TaoBao sellers are already taking advantage of our proposed set of CMC tools (Appendix A) to build swift guanxi with their buyers, and since business success in China is largely dependent on guanxi (Wang 2007), the community of TaoBao sellers appears to have given TaoBao a competitive advantage in Chinese online marketplaces.

Although a rich literature on online marketplaces has been developed over the past decade, most studies were conducted in Western countries while online marketplaces in China have been relatively under-researched. Chinese online marketplaces are quite distinct from Western marketplaces where there is less of a need for close interpersonal relationships given the existence of solid institutional structures (Pavlou and Gefen 2004). Also, in Western online marketplaces, the automation of the transaction process has largely replaced human interaction, thus replacing the need for interpersonal relationships. However, while much research in Western online marketplaces has focused on third-party solutions, such as escrows and credit card assurances, our study focuses on dyadic buyer–seller communication. The idiosyncrasies of Chinese online marketplaces (i.e., the need for interpersonal communication to reduce the uncertainty given the less mature institutional context) are worthy of further scrutiny when assessing whether and how effective Western business models can be extended to China, and vice versa.

Implications for Practice

Half a century ago, Thibaut and Kelley (1959) pointed out that social interaction resembles a business transaction. *The Economist* (2000, p. 7) also highlighted guanxi as a unique

construct founded in the social and business life of China. TaoBao has recognized the need for rich communication and guanxi in China, and it has thus focused on building guanxi swiftly in its online marketplace by embedding a set of CMC tools in the transaction process. This rationale highlights the critical role of website design for facilitating swift guanxi. One of our key findings was the importance of CMC tools to support buyer–seller relationships. This study provides a good example of why CMC tools are important and why they should be a key point for companies interested in developing online marketplaces in China and likely other cultures where guanxi is prominent.

Given the empirical evidence from this study, other online marketplaces, such as eBay and Amazon, could consider embedding CMC tools into their platforms to help gain similar strategic benefits. Indeed, the role of CMC tools is two-fold. The role of CMC tools in establishing swift guanxi via interactivity, presence, and trust suggests that buyer–seller interaction can easily and quickly transform strangers into acquaintances. In terms of repeat transactions, the effective use of CMC tools creates a significant opportunity for online sellers who wish to reinforce swift guanxi with buyers via building buyers' trust. Our data indicates that 33.1 percent of participants were repeat buyers, suggesting that repurchases are commonplace in TaoBao and highlighting the importance of CMC tools in TaoBao's successful enabling of sellers to meet the strategic objective of repeat business (Kotler 2000). However, we would also like to emphasize that although these critical factors (CMC tools) influence a buyer's actual repurchases, this does not rule out substantial impacts from the institutional and legal environment on the design of marketplaces. This leads to our discussion of future research opportunities.

Limitations and Suggestions for Future Research

This study has some limitations that open up interesting opportunities for future research. First, although our study has provided evidence for the critical contribution of CMC tools in building swift guanxi and facilitating repeat transactions, future research can compare the role of CMC tools with other institutional and legal mechanisms in online marketplaces. These mechanisms can include escrow and credit card guarantees (Pavlou and Gefen 2004), as well as other mechanisms such as legal protection and enforcement. Our current model does not eliminate alternative explanations of marketplace success from effective institutional and legal mechanisms. Instead, we envision that the proposed set of CMC tools with legal mechanisms may offer a more comprehensive view for enhancing online transactions.

Second, this study focuses on the buyer's perspective to examine the effectiveness of CMC tools and swift guanxi, considering that the buyer is the party faced with the higher information asymmetry and is best positioned to judge whether swift guanxi exists and is sufficient to facilitate transactions. Although our approach is consistent with most of the guanxi literature where studies were carried out on only one side of the guanxi relationship, future research can explore (swift) guanxi from the seller's perspective. Also, given that guanxi exists as a dyadic relationship, it is important to examine guanxi from a dyadic perspective. It is worth noting that building swift guanxi is not an instance but a process (Chen and Chen 2004). IT tools may help build swift guanxi at various stages before, during, and after a transaction. While our study was not framed as a process model of swift guanxi development, it is a fruitful area for future research.

Third, this study focuses on swift guanxi after the first transaction. We acknowledge that swift guanxi can be built with potential buyers who only engage partially in a transaction (such as being involved in a communication or expressing some interest) but do not follow through to complete a transaction. Therefore, we encourage future research to explore this direction in order to test whether swift guanxi affects other transaction behaviors, such as impulse purchasing.

Fourth, this study employs the high-level logic of communication performance theories such as MST and CMCIM to examine the effects of CMC tools on shaping swift guanxi. Future research can employ an alternative lens of media choice such as channel expansion theory (Carlson and Zmud 1999), or empirically test MST or CMCIM theories to examine the role of these theories in online marketplaces.

Finally, our study provided a starting point to examine the phenomenon of TaoBao as a marketplace in China. It is worth exploring how much of TaoBao's success can be attributed to the specific nature of Chinese buyers. A comparison between TaoBao and other online marketplaces in other countries can offer a more holistic explanation for TaoBao's success relative to other online marketplaces, such as eBay. Such cross-cultural studies, which could compare the effect of CMC tools on institution-based trust and guanxi building, may provide additional insights for local and international businesses seeking to achieve competitiveness in online marketplaces across the globe.

Concluding Remarks

This study shows how a set of CMC tools facilitates repeat transactions in online marketplaces by enabling rich and per-

vasive buyer–seller communications, an important means for building swift guanxi. While CMC tools are still advancing, the benefits of their deployment in online marketplaces are not automatic but instead depend on understanding the local market and its enactment by buyers and sellers. TaoBao realized that guanxi is part of the Chinese business landscape and consequently formalized this critical element of business on its IT platform design to help buyers and sellers establish swift guanxi via IT-enabled communications. This study shows that CMC tools help build swift guanxi and facilitate repeat transactions. The application of integrated communication tools shifts one-way automated transactions into dyadic, interactive, and rich transactions. CMC tools thus respond to the buyers' inherent need for interpersonal relationships to overcome the impersonal nature of online marketplaces.

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RESEARCH ARTICLE

SWIFT GUANXI IN ONLINE MARKETPLACES: THE ROLE OF COMPUTER-MEDIATED COMMUNICATION TECHNOLOGIES

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Appendix A

Research Context

Over the last decade, China's online marketplaces have experienced rapid evolution. The first, EachNet, was established in 1999. EachNet was acquired in 2002 by eBay and renamed "eBay China." The second, TaoBao, owned by Alibaba, China's largest business-to-business portal, went online in April 2003. TaoBao replaced eBay China as market leader in 2004. eBay China was eventually sold to TOM Online in December 2006, and then renamed back to EachNet. According to recent reports (CNNIC 2011), TaoBao is currently the leading online marketplace in China with a 95.5 percent market share compared to EachNet's current 0.1 percent. Other smaller players, such as PaiPai, account for the remainder of the market.

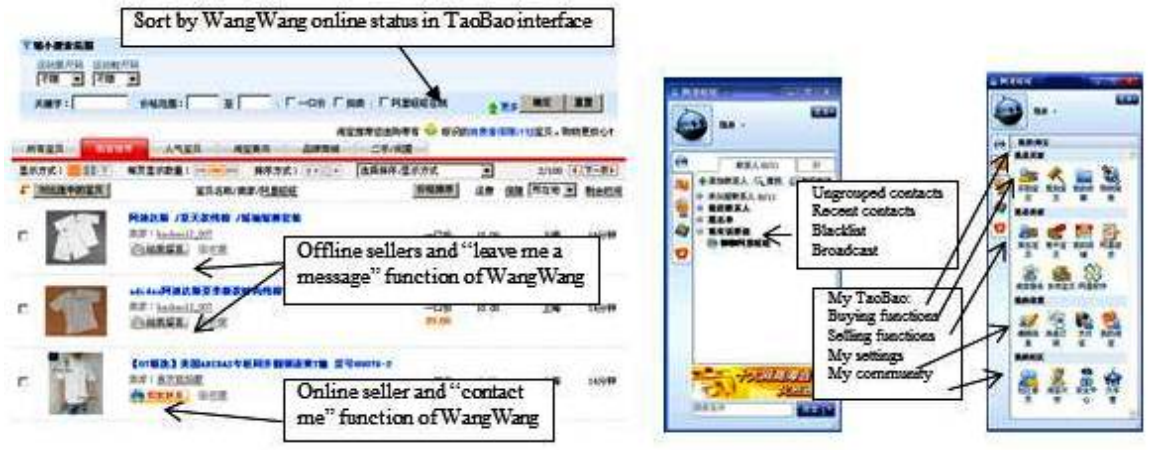
TaoBao allows two transaction models: buy it now and auctions. Products are initially displayed on TaoBao's website in a random order, but buyers can simultaneously sort both products and sellers using various criteria. Each seller can customize the website storefront with a unique name (Figure A1), which can be located by TaoBao's internal search engine. Although store designs vary widely with respect to background, pictures, colors, product listings, and text descriptions, all store fronts indicate the online IM status, feedback score, and buyers' average score on the seller's service performance.

TaoBao's features are similar to those of many online marketplaces. However, in stark contrast to eBay and most online marketplaces,[1] TaoBao deliberately developed and encouraged the use of a direct buyer–seller CMC tool, *WangWang*. While WangWang is functionally similar to other IM tools such as MSN, Skype, and Tencent's QQ, it is not a standalone application, but a platform-embedded tool that shares TaoBao's login IDs (Figures A1 and A2). When buyers see a product they want to purchase , they can simultaneously see if the product's seller is online in WangWang, as indicated by a bi-colored icon (blue = online; grey = offline). Products can also be sorted according to the seller's online status. The buyer can then initiate an IM communication with the seller with a single click from TaoBao's website. Finally, both buyers and sellers can view each other's credit numbers shown in WangWang, links to each other's TaoBao webpage, as well as transaction reminders and records in WangWang.

[1]CMC tools embedded in eBay include a message box (i.e., "Questions and answers about this item") and a feedback system. Instant communication between buyers and sellers using a tool like Skype is not available on eBay.

Notes: At the top of this web page, buyers can search products inside the seller's store using the embedded search engine. The rest of this web page shows detailed information about a particular product, including the seller's information (on the left-hand side), the product picture (in the middle), and detailed product descriptions, delivery and payment information (on the right-hand side).

Figure A1. Screen Shots of a Sample Seller's Storefront on TaoBao



Notes: The web page on the left-hand side of the screen shot shows the product listing from different sellers, including information about product names, seller names, and online/offline status of sellers. TaoBao's search engine is shown in the top left corner of this web page, which can sort the product listing by keywords, price range, fixed or bidding prices, and WangWang online status. On the right-hand side of the screen shot, the WangWang tool, which can be used by both buyers and sellers, is shown. The middle screen shot shows the contact list in WangWang and the right-hand side screen shot shows the "My TaoBao" functions.

Figure A2. Screen Shots of the Instant Messenger (IM) Tool on TaoBao

Notes: The left-hand side shows detailed product descriptions such as product name, price, size, pictures, and delivery/payment methods. The right-hand side displays the buyers' and the seller's discussions on one focal product via the message box.

Figure A3. Screen Shots of the Message Box on TaoBao

Notes: This webpage is a screen shot of a seller's feedback system that displays the seller's name, the buyers' name, the sold product, and the buyers' qualitative comments regarding the purchase experience. The comments as shown on this particular web page were all positive with warm feedback from the buyers.

Figure A4. Screen Shots of the Feedback System on TaoBao

Another CMC tool used in TaoBao is the internal *message box*, which enables buyers to leave a short text message to sellers under a product listing (Figure A3). In contrast to IM, the message box allows the message sender and receiver a time buffer. When a seller logs onto her online storefront, the message box indicates the existence of new messages from buyers. In addition to initiating dyadic buyer–seller conversations via the message box, all buyers can retrieve and view the past records of other buyers' inquiries and the corresponding seller's answers on the focal product. Thus, the message box function not only provides a chance for buyers to ask specific questions about a product, but it also provides other buyers with a complete list of frequently asked questions and answers about one specific product.

TaoBao also has a *feedback system* to collect and disseminate feedback for buyers and sellers (Figure A4). This CMC tool documents the transaction ratings of buyers and sellers in the marketplace (Dellarocas 2003; Pavlou and Gefen 2004). It is widely used in online marketplaces, including eBay. Both buyers and sellers can evaluate each other by posting a feedback score (-1, 0, +1) and writing text comments on the transaction. While text comments are optional, the TaoBao system will automatically record a +1 if no score is entered.

Appendix B

Underlying Differences Between Guanxi and Related Concepts

Differences	Guanxi	Social Capital	Relationship Marketing
Fundamental Purpose	For the sake of self interest, guanxi can be characterized by the absence of social goals (Zhai 2009).	Providing resources to people involved in the social structure to achieve their interests, where actors are constrained by a normative structure (Coleman 1988) and the collective value of the whole social network (Coleman 1988; Zhai 2009).	Business orientation and long-term profitability (Wang 2007).
Underlying Drivers	Mistrust of the legal and political system leads to defensive mechanisms, such as guanxi. The exchange of favors is a key driver of guanxi (Arias 1998; Wong and Chan 1999).	Social capital is derived from effective social norms, structure, and sanctions that encourage people to benefit from the public good versus benefitting their own interests (Coleman 1988).	"Guiding principles of a relational exchange in most Western cultures are driven by legality and rules" (Wang 2007, p. 82).
Development Process	An individual-level personal connection is required to build guanxi (Arias 1998; Zhai 2009). Guanxi is developed following Confucian cultural norms that are different from those of other cultures (Chen and Chen 2004).	Effective social structure is established with obligations and expectations, and then the actors involved benefit from the established social structure (Coleman 1988).	A formal business relationship comes first and is strengthened by informal personal relationships, yet is constrained by business practices (Wang 2007).
Relationship to Rules	China lacks a formal rule of law (Arias 1998; Martinsons 2008). Thus, guanxi is often regarded as "a substitute for formal institutional and legal support" (Xin and Pearce 1996, p. 641).	Social capital relies on the rules of the environment (Coleman 1988). It neither negates nor is it a substitute for legal rules. A strong rule of law and basic political institutions facilitates the extension of social capital to the society level (Fukuyama 2002).	Business (marketing) relationships are grounded on universal institutional rules, contracts and impartial courts (Wong and Chan 1999; Wang 2007).
Relationship to Trust	Trust in "the system" is lacking and interpersonal-level trust persists in guanxi relations (Martinsons 2008).	"A culture of trust and tolerance" in a social network is emphasized (Inglehart 1997, p. 188). Trustworthiness sustains the social structure where social capital is embedded (Coleman 1998).	Impersonal-level trust (Wang 2007).
Outcome Benefits	Individual-level benefits are the expected outcomes. Firm-level business guanxi can be built through individual-level guanxi in a network (Wang 2007). Therefore, guanxi emphasizes individual-based capital and personal gain (Fan 2002).	Although people are the individual beneficiaries, collective benefit is often the emphasis of social capital (Nahapiet and Ghoshal 1998; Wasko and Faraj 2005), grounded on the public goods aspects of social capital (Coleman 1998). Social capital explains a variety of pro-social behaviors that cannot be explained with the concept of individual capital (Coleman 1998). A typical example is altruistic knowledge contribution in electronic networks of communities (e.g., Wasko and Faraj 2005; Kankanhalli et al. 2005).	A business relationship is the ultimate expected outcome of relationship marketing. Therefore, firm-level interests—long term profitability—are the ultimate outcome of relationship marketing, even when inter-firm relationships are established through individuals.
Impacts on Business	Guanxi is considered as lubrication for business relationships, and potentially results in high margins on profits as returns to guanxi, but often at a social cost (Fan 2002).	Social capital creates business and career opportunities in a positive sense (Coleman 1998), especially from a level of building a social structure (Nahapiet and Ghoshal 1998).	High setup and maintenance cost for relationship marketing (Wang 2007).

Appendix C

Similarities of Traditional Guanxi and Swift Guanxi in Online Marketplaces

Similarities	Traditional Guanxi	Swift Guanxi in Online Marketplaces
Mutual Understanding	Mutual understanding is the foundation of guanxi (Lee et al. 2001; Wang 2007). In order to build guanxi, guanxi participants need to understand and follow the implicit rule of a guanxi-grounded relationship or network covering such issues as the business culture, exchanging favors, the operation of business (Lee et al. 2001; Wong and Chan 1999).	For non-face-to-face, online transactions, it is critical for a buyer and a seller to reach a consensus on what and how to buy/sell, as well as on some other specific transactional requirements. Similar to traditional guanxi, mutual understanding of each other's needs is the foundation of a quickly formed guanxi between a buyer and a seller.
Reciprocal Favors	Exchange of favors as a form of reciprocal obligation is a prerequisite to establishing guanxi (Arias 1998; Wang 2007; Wong and Chan 1999). Guanxi partners who receive favors will be very likely to respond positively by exchanging resources, which in a relational sense is conducive to a formal relationship or friendship (Su et al. 2003). Guanxi is maintained via such reciprocity of benefits.	Small favors may be exchanged by swift guanxi participants, such as offering preferential pricing to buyers or price premiums to online sellers for superlative service. Such small favors are similar to the marketing approach used to attract new and cultivate loyal customers. As a consequence of the seller's personal care, the buyer may provide positive ratings and online comments.
Relationship Harmony	In China, "harmonious consensus is maintained in formal sessions and agreements among participants are usually pursued by informal negotiation in an indirect way" (Leung et al. 2002, p. 203). Accordingly, harmony is regarded as a core ingredient of and a means to obtain guanxi relationships. Establishing a harmonious relationship is described as "the main focus of Chinese communication" (Leung et al. 2002, p. 204).	Harmony, manifested as mutual respect, friendliness and conflict avoidance, is the means to establish and maintain guanxi. In the online environment, harmony consensus can be quickly achieved during the CMC between a buyer and a seller, which is instrumental to facilitate online transactions. In contrast, conflicts and arguments are obstacles to the pursuit of a smooth relationship, as with the traditional guanxi.

Appendix D

Differences Between Traditional Guanxi and Swift Guanxi in Online Marketplaces

Differences	Traditional Guanxi	Swift Guanxi in Online Marketplaces
Relationship Duration	Traditional guanxi is established mostly for long-term cooperation (Ambler et al. 1999) where favors can be banked in and retrieved later (Arias 1998). Guanxi is not a one-time-use commodity because guanxi participants in general anticipate long-term cooperative relationships (Ambler et al. 1999).	In online marketplaces, the purpose of guanxi is to quickly obtain a sufficient level of understanding and psychological comfort to facilitate a transaction. In this sense, buyer–seller guanxi is transaction oriented and can be built rather quickly.
Resources	The purpose of building traditional guanxi is to pull certain limited and controlled resources from a variety of actors such as government, officials, and companies (Arias 1998). A number of future commitments and a long-term relationship of the guanxi participants is expected to guarantee access to the limited resources (Arias 1998; Su et al. 2003).	Online marketplaces have dramatically increased the availability of substitute products and sellers. The long-term commitment and level of dependence that characterize traditional guanxi is thus less salient for swift guanxi in buyer–seller relationships in online marketplaces.
Status	Status matters in guanxi relationships because senior people often have more resources than juniors (Arias 1998; Xin and Pearce 1996).	In online marketplaces, the status of buyers and sellers is fairly equal due to the fact that many buyers and sellers interact together and do not differ in terms of resources.
The Role of Technology in Communication	Social interaction is an effective way to build traditional guanxi. If communication is involved in building guanxi, the face-to-face mode is primarily used in the interactions (Liu et al. 2008).	In online marketplaces, CMC is an effective way to build swift guanxi. CMC tools can facilitate interactive and rich technology-enabled communication so as to transform strangers into acquaintances who can engage in online transactions.

The literature review of traditional guanxi provides much more diversified and equivocal definitions and conceptualizations of guanxi (see Table 1). Considering the above four major differences between traditional guanxi and swift guanxi in the online marketplaces (Table D1), we argue that not all of the (diversified) dimensions listed in the traditional literature are applicable to our online context. For instance, long-term cooperation (e.g., Ambler et al. 1999; Lee et al. 2001) is more relevant to traditional guanxi (in which guanxi participants look for long-term collaboration) when compared to swift guanxi in online marketplaces (in which informal buyer–seller relationships can be quickly established). Similar arguments are applied to the dimension of relationship commitment in traditional guanxi measures (e.g., Ambler et al. 1999; Ramasamy et al. 2006), which is a much stronger form of guanxi, while in the online marketplace, online buyers develop a lower dependence on any particular seller and therefore commitment or affect is a less serious concern or focus for both transactional parties. Personal friendship grounded on relationships, such as friends, relatives, classmates, or activities, such as dining together (e.g., Ambler et al. 1999; Chou et al. 2004; Farh et al. 1998) appear to be much less easy to practice in online marketplaces where transactional parties are separated in space and are relative strangers. As a result, these dimensions of traditional guanxi are considered not to be applicable in our conceptualization of the swift guanxi in online marketplaces. Such conceptualizations of swift guanxi (namely, what to include and what to rule out) were further verified by the interviews with the online buyers and sellers, as explained in the later sections, including the quantitative analysis of content validity ratios.

Appendix E

Control Variables

Short Message Service (SMS), Email and Phone Calls. They refer to the frequency of using SMS, email and phone calls to contact the specific (focal) seller. They are typical communication tools that can be used during a transaction. We thus control for the effects of other communication tools on a buyer's evaluation of interactivity and presence.
Extent of Using of IM, Message Box, Feedback System. They refer to whether the buyer actually used the IM, message box and feedback system when transacting with the focal seller. They are binary variables (coded as 0 or 1) for validating the perceptual measures of the effective use of IM, message box and feedback system (scaled from 1 to 7).
Trust in the Transaction Platform. This refers to a buyer's subjective belief that the transaction platform will institute and enforce fair rules, procedures and outcomes in its marketplace competently, reliably and with integrity, and will offer recourse for buyers to deal with sellers' opportunistic behavior (Pavlou and Gefen 2004). By increasing the buyers' trust in the transaction platform, the buyers' transaction intentions with the community of sellers on that particular platform could also be affected.
Community Sellers' Performance. It refers to the buyers' general knowledge about the average performance of sellers in a specific marketplace (Pavlou and Gefen 2004). Outstanding vendor performance in general contributes to customer loyalty to a marketplace and willingness to transact with its sellers.
Past Positive Experience. It reflects the quality of a buyer's positive encounters with sellers in a specific marketplace (Pavlou and Gefen 2004). Satisfaction with the service quality delivered by sellers in the past has been shown to have a positive effect on the future intentions to transact.
Past Transactions. This refers to the self-reported number of past transactions that a buyer has had with a specific seller in this study. The more frequently a buyer has transacted with a seller in the past, the more likely it is that the buyer will further develop the trust (Pavlou and Dimoka 2006) and continue building a long-term relationship with that seller (Arias 1998; Tsang 1998), and the higher the probability that the buyer will engage in a future transaction with the seller (Pavlou 2003). We thus control for the effects of past transaction number on trust, swift guanxi, repurchase intentions and actual repurchase.
Seller Characteristics. This includes the seller's feedback rating score, seller size, and product category. As shown by previous research, a buyer is more willing to buy from a seller that has a higher feedback rating (Ba and Pavlou 2002) and better seller performance (Pavlou and Gefen 2004) because transactions undertaken with such sellers are more likely to be successful. Past studies (e.g., Kumar and Venkatesan 2005) showed that product categories and the number of products made available by the seller (i.e., seller size) affect the buyer's decision to transact with the focal seller.

Appendix F

Measurement Development

Panel Discussion

Following Yin (2009), we used a semi-structured interview protocol (Table F1) to guide the panel discussion. The justification for not pursuing individual interviews but rather using interview panels was because we wished to provoke insightful ideas, thoughts, and conversations with group discussions. Two research assistants served as interviewers on these panels. In the discussion, the research assistants first provided an overview of the research project, including objectives, means for access to data sources, and data analysis. We then sequentially asked the interviewees three sets of semi-structured interview questions. About 10 minutes were allocated for each set of questions. The interviewees were also asked to provide additional feedback or comments on the interview procedures. Each interview discussion panel lasted about 30 minutes.

After the interviews, the research assistants summarized the panel discussions into streams of topics. Overall, the interview data underscored the swift nature of guanxi in online marketplaces, such as TaoBao. The interview data also indicated that the scope of swift guanxi for online marketplaces was restricted to three constructs—mutual understanding, reciprocal favor and relationship harmony—as detailed in Table F2.

Content Validity Ratio

After the interview discussions were completed, the same 23 interviewees were asked to provide independent ratings on the initial 12 swift guanxi items (Table F3) in the context of online transactions on another occasion. These swift guanxi measures were developed based on the literature and discussions in the interview panels. Based on the 23 interviewees' ratings, we then computed the content validity ratio (CVR), following Lewis et al. (1995). All items about swift guanxi were found to score higher than the suggested level of 0.39 in their CVR calculation (Table F3).

Card Sorting Exercise

To further explore the content validity of the measurement items of swift guanxi, card sorting exercises were then run. In a pool of cards, 12 items of swift guanxi were initially created for the three dimensions of swift guanxi (mutual understanding, reciprocal favors, and relationship harmony). A panel of three judges (an academic, a working professional, and a Ph.D. student) was formed following Moore and Benbasat (1991). On the first round, the judges were not provided with the construct names, but they were asked to label each construct. In this round, the correct hit ratio was 80.5 percent. Based on these results and the judges' qualitative feedback, we revised ambiguous or poorly worded items. Second, a structured card sorting was conducted. The names of the three constructs were provided to another three-judge panel (with the same characteristics as the first panel) and a 91.7 percent correct hit ratio was achieved, indicating that most measurement items were placed under their theorized measures. Since 91.7 percent is a satisfactory level of reliability (Moore and Benbasat 1991), we did not conduct a third round of card sorting.

Table F1. Interview Protocol

1. Overview of Research Project	(1) This research focuses on buyer–seller guanxi in the context of TaoBao. Through this study, we attempt to explore the definitions and measures of buyer–seller guanxi, as well as its determinants and outcomes. In this interview, we have a set of semi-structured questions. You can discuss how you feel about these questions based on your past transaction experiences on TaoBao. The interview will last about 30 to 40 minutes. Free discussion around the questions is welcomed so as to provoke insightful thoughts. (2) This project is supported by four universities (Tilburg University, City University of Hong Kong, Temple University, and Jinan University). For data analysis purposes, the interview conversation will be recorded. Your interview responses will be kept strictly confidential and data from this interview will only be used for research and reported in the aggregate. You should not identify yourself anywhere during the interview and no individual data will be used for analysis.
2. Semi-structured Interview Questions	(1) How do you feel about the guanxi between you and TaoBao sellers in general? You can also describe the importance, usefulness, or the contribution of guanxi to your purchase decision. (2) Please describe the guanxi between you and the TaoBao seller from whom you bought most frequently or with whom you are most familiar. This needs to be a detailed description. (3) How would you like to define buyer–seller guanxi in C2C online marketplaces? Please define it in terms of its characteristics and describe its importance, its determinants and outcomes in the context of C2C online transactions.

Table F2. Typical Interview Discussions

Topics	Typical Discussions with Interviewees
Importance of Swift Guanxi in Facilitating Purchases in TaoBao's Online Marketplace	"It is necessary to build guanxi with the seller. You know the consumer protection mechanisms are not yet well established in China. Sometimes sellers provide fake products on TaoBao. When you talk to the seller online, and build up the trust and guanxi, such a situation (receiving fake products) can be avoided. With guanxi with the seller, I can always have good products from the sellers. They also provide me with discounts." "This is the case especially when the online seller has just started their business in TaoBao. In such a stage, guanxi is very important for both buyers and sellers. The seller needs to find ways to quickly build guanxi with the buyer to increase sales. The buyer needs to talk to the seller, achieve some level of trust, and feel that the seller has provided flexible negotiation terms. This form of guanxi can definitely promote online business."
The Swift Nature of Guanxi	"I would like to know the seller and the product quickly because I don't want to wait for days or weeks to receive a response from the seller. Otherwise, I will just walk away. So the buyer–seller guanxi needs to be established swiftly so as to facilitate the transaction."
A Polar Opposite View of Guanxi	"I am rational buyer and would not establish any emotional connections with a seller. Even if the first-time purchase from one particular seller is done correctly, I am unlikely to revisit the same seller. I don't want to build guanxi with sellers and repeat purchase is not a normal case for me. I like variety. Buying from different sellers, even for the same type of products, allows me to try different things." [Note: This statement underscores that some buyers prefer one-time transactions from multiple sellers and the lack of guanxi in purely single-shot transactions. This exactly captures the causal relationship of swift guanxi and repeated purchases, viz., less guanxi, more unlikely to have repeated purchases.]
Mutual Understanding in Swift Guanxi	"One time when I was buying books in TaoBao I had a very good conversation with one of the sellers about books. After that I established the guanxi with the seller because we shared the same interests in books."
Reciprocal Favor in Swift Guanxi	"Being good to each other is important in a buyer–seller relationship. For example, the seller can offer discounts to buyers. The buyers can provide good ratings/comments to the seller in return." "The seller sent me a small gift after my first purchase. I felt very happy about the gift. After that I always buy things from him."
Relationship Harmony in Swift Guanxi	"In WangWang conversations, I felt that the seller tried to answer all my questions about my purchase. However, after receiving the products, I wanted to complain due to the quality of the goods. Nevertheless, he did his best to solve the problems for me. Overall I think that he respected me and tried to address the potential conflicts. Such relationship harmony is very important for a smooth guanxi."

Table F3. Measures of Dimensions of Swift Guanxi Used for Content Validity Ratio

Mutual Understanding	**CVR**
1. We can understand each other's needs.	0.91
2. We can understand the point of view of each other.	0.91
3. We can make ourselves heard.	0.91
4. We can follow the flow of conversation.	0.91
5. We show interest in each other's opinions.	0.91
Reciprocal Favor	
1. If I buy from this seller, he/she would provide a discount to me.	0.91
2. We provide a positive rating or comment to each other.	0.74
3. We help each other.	0.65
4. We proved to be friends by doing a favor for each other.	0.39
Relationship Harmony	
1. We maintain harmony.	0.91
2. We avoid conflict.	1.00
3. We respect each other.	1.00

Appendix G

Principal Constructs and Corresponding Measurement Items

Effective Use of Instant Messenger – New scale based on Pavlou and Gefen (2004)
1. I feel that TaoBao's instant messenger (i.e., WangWang) functions as an effective communication channel for me to communicate with this seller.
2. I have used WangWang to verify information with this seller.
3. I believe that WangWang has facilitated the direct communication and negotiation between this seller and me.
4. I have great dialogues with this seller in WangWang.
5. Did you use WangWang in your last transaction with this seller? Y/N
Effective Use of Message Box – New Scale based on Pavlou and Gefen (2004)
1. TaoBao's message box is not an effective (1) is a very effective (7) channel for me to communicate with this seller on one specific product.
2. TaoBao's message box has provided a good question and answer channel to discuss one specific product for this seller and its potential buyers including me.
3. The message box provided by TaoBao did not help me at all (1)/has helped me a lot (7) in the communication process with this seller.
4. Did you use TaoBao's message box in your last transaction with this seller? Y/N
Effective Use of Feedback System – Adapted from Pavlou and Gefen (2004)
1. I feel confident that TaoBao's ratings and feedback mechanism provides accurate information about this seller's reputation.
2. A considerable amount of useful feedback information about the transaction history of this seller is available through TaoBao's ratings and feedback mechanism.
3. I believe that that the ratings and feedback mechanism in TaoBao is effective for buyers to know about this seller.
4. I believe that the ratings and feedback mechanism in TaoBao is reliable and dependable so as to help me evaluate this seller.
5. Did you use TaoBao's feedback system in your last transaction with this seller? Y/N
Interactivity: Measured by Active Control, Two-Way Communication, and Synchronicity
Interactivity: Active Control – Adapted from Liu (2003)
1. I felt that I had a lot of control over my experience at this seller's website.
2. While I was on this seller's website, I could choose freely what I wanted to see.
Interactivity: Two-way Communication – Adapted from Liu (2003)
1. This seller facilitates two-way communication between him/herself and visitors.
2. This seller gives visitors the opportunity to talk to him/her.
Interactivity: Synchronicity – Adapted from Liu (2003)
1. This seller responded to my questions very quickly.
2. I was able to get information from this seller very rapidly.
Presence: Measured by Telepresence and Social Presence
Presence: Telepresence – Adapted from Khalifa and Shen (2004) and Steuer (1992)
1. When browsing this seller's website, my body was in the room, but I felt my mind was inside the world created by this seller.
2. When browsing this seller's website, I felt that I was immersed in the world this seller had created.
3. This seller-generated world seemed to me to be "somewhere I visited" rather than "something I saw."
4. I felt I was more in the "real world" than the "computer world" when I was browsing this seller's website.
Presence: Social Presence – Adapted from Khalifa and Shen (2004) and Steuer (1992)
1. There is a sense of human contact in this seller's website.
2. There is a sense of personalness in this seller's website.
3. There is human warmth in this seller's website.
4. There is a sense of human sensitivity in this seller's website.
Trust in Seller: Formative Measure formed by Ability, Benevolence and Integrity
Trust: Ability – Adapted from Serva et al. (2005)
1. This seller is competent and effective in selling his/her products online.
2. This seller performs its role of selling his/her products online very well.

3. Overall, this seller is a capable and proficient Internet seller.
4. In general, this seller is very knowledgeable about selling his/her products.
Trust: Benevolence – Adapted from Serva et al. (2005)
1. I believe that this seller would act in my best interests.
2. If I required help, this seller would do its best to help me.
3. This seller is interested in my well-being, not just its own.
Trust: Integrity – Adapted from Serva et al. (2005)
1. This seller is truthful in its dealings with me.
2. I would characterize this seller as honest.
3. This seller would keep its commitments.
4. This seller is sincere and genuine.
Swift Guanxi: measured by Mutual Understanding, Reciprocal Favor and Relationship Harmony
Swift Guanxi – Mutual Understanding – New Scale
1. We can understand each other's needs.
2. We can understand the point of view of each other.
3. We can make ourselves heard.
4. We can follow the flow of conversation.
5. We show interest in each other's opinions.
Swift Guanxi - Reciprocal Favor – New Scale
1. If I buy from this seller, he/she would provide a discount to me.
2. We provide a positive rating or comment to each other.
3. We help each other.
4. We proved to be friends by doing a favor for each other.
Swift Guanxi – Relationship Harmony – New Scale
1. We maintain harmony.
2. We avoid conflict.
3. We respect each other.
Repurchase Intentions – Adapted from Pavlou and Gefen (2004)
1. Given the chance, I predict that I would consider buying products from this seller in the near future.
2. Given the opportunity, I intend to place an order from this seller again.
3. I will buy similar products from this seller again.
Actual Repurchases
How many times did the buyer re-buy from the focal seller during the four month time period following completion of the first online questionnaire? (Archival data collected by from buyer's web page on TaoBao).
CONTROL VARIABLES
Past Transactions – Adapted from Pavlou (2003)
Before filling in this questionnaire, how many times of transactions had you transacted with this seller?
Trust in the Transaction Platform – Adapted from Pavlou and Gefen (2004)
1. As an auction host/intermediary, TaoBao can be trusted at all times.
2. As an auction host/intermediary, TaoBao can be counted on to do what is right.
3. As an auction host/intermediary, TaoBao has a high level of integrity.
4. TaoBao is a competent and knowledgeable auction host/intermediary.
Past Positive Experience – Adapted from Pavlou and Gefen (2004)
1. My past experience in TaoBao was positive.
2. I received excellent service from sellers in TaoBao in the past.
3. Sellers in TaoBao did a good job in the past.
Community Sellers' Performance – Adapted from Pavlou and Gefen (2004) Please rate the performance of Amazon's auction sellers on average on fulfilling these goals:
1. Competitive pricing.
2. Timeliness of delivery.
3. High-quality products.

Frequency of CMC Use – New Scale based on Kim et al. (2007)
Do you generally use the following communication tools to interact with sellers before/during/after transactions? IM (WangWang), Message Box; Reputation System; Telephone calls; SMS; Email. (1 = Never, 7 = Always)
Seller's Online Status
The seller's status of being online in the instant messenger, indicating the real-time communication availability in the period of morning, afternoon and evening time. This is an archival data item collected from the seller's website at TaoBao.
Seller Size
The number of products available in the seller's online shop, which is an archival data item collected from the seller's web page.
Product Category
The product category that a seller's products belong to. According to the data collected, the most frequently bought product category is coded as 1, and the least frequently bought product category is coded as 13.
Performance Evaluation
The average customer evaluation of a seller's performance in terms of product description quality, service quality and shipment quality. This is an archival data item collected from the seller's website which ranges from 0-5.

Appendix H

Online Purchases in China in 2010 (Source: CNNIC 2011)

Buyer	Items	Percentage	Buyer	Items	Percentage
Gender	Male Female	54.5% 45.5%	**Age**	16-20 21–30 31–40 41 and above	3.8% 65.9% 22.8% 7.5%
Education	Below college College Bachelor or above	30.6% 29.1% 40.4%	**Annual *Individual* Income** (US$1 = RMB6.83)	Under RMB24,000 RMB24,001–60,000 RMB60,001–96,000 RMB96,001 or above	42.7% 41.5% 8.0% 6.1%
Online purchases in past *HALF* year (# of times)	1-2 2-4 5-10 11 or above	25.4% 23.0% 29.5% 22.1%			
	Items				**Percentage**
Seller Product Category (Allow multiple choices in CNNIC's 2011 survey)	(1) Virtual products such as electronic tickets, cell phone value, game, lottery (2) Clothes, shoes, sport related products (3) Accessories, fashion, glasses, watches, jewelry, handbags, suitcase (4) Electronic and computer-related products (5) Cosmetics and hair-related products (6) Baby and mum related products (7) Home, flowers, gardening related products (8) Food, heath, kitchen, bath, stationery, storage, adult related products (9) Outdoors and car related products (10) Collectibles, pets, books, entertainments, instruments related products (11) Others				(1) 27.7% (2) 70.1% (3) 7.8% (4) 31.6% (5) 17.2% (6) 6.1% (7) 18.0% (8) 11.5% (9) 9.0% (10) 31.4% (11) 4.3%

Appendix I

Measurement Validation for First-Order Constructs

We first used SPSS for verifying construct validity and reliability for the reflective first-order factors. Convergent and discriminant validity are confirmed by exploratory factor analysis.

1. All items loaded on the expected factors with a loading score greater than 0.50. Moreover, the own factor loading scores are higher than all cross loading scores.

2. All eigenvalues of the first-order constructs are larger than the suggested value of 1.0.

3. The communality scores are all higher than the suggested value of 0.50.

These results indicate adequate reliability (Hair et al. 1998).

Second, construct reliability was assessed by identifying the composite reliability scores of the first-order constructs generated from PLS , all of which are above 0.84 (Appendix J), suggesting acceptable internal consistency. The square roots of the average variance extracted are all above 0.80, which are greater than all other cross correlations. This shows that all first-order constructs capture more construct-related variance than error variance (Gefen and Straub 2005; Pavlou and Gefen 2004). These results demonstrate adequate convergent and discriminant validity for all first-order constructs.

Appendix J

Descriptive Statistics, Correlation Matrix, and AVEs of Constructs

Principal Constructs	Mean (STD)	α	VIF	1	2	3	4	4a	4b	4c	5	5a	5b	6	6a	6a	6c	7	7a	7b	7c	8	9
1. Effective Use of IM (Reflective)	5.23 (1.4)	.898	1.52	**.687**																			
2. Effective Use of Message Box (Reflective)	4.38 (1.16)	.959	1.19	.262	**.866**																		
3. Effective Use of Feedback System (Reflective)	5.67 (1.20)	.951	1.51	.308	.174	**.855**																	
4. Interactivity (Second-order Formative Construct)	—	—	—	.484	.254	.536	—																
4a. Interactivity: Active Control (Reflective)	5.29 (1.21)	.877	2.02	.315	.242	.524	**.849**	**.781**															
4b. Interactivity: Two-Way Communication (Reflective)	5.24 (1.37)	.848	1.74	.414	.218	.391	**.783**	.496	**.736**														
4c. Interactivity: Synchronicity (Reflective)	5.33 (1.52)	.983	1.90	.472	.147	.352	**.780**	.449	.486	**.966**													
5. Presence (Second-order Formative Construct)	—	—	—	.346	.255	.340	.517	.402	.364	.488	—												
5a. Presence: Telepresence (Reflective)	4.19 (1.45)	.930	2.37	.309	.210	.316	.484	.396	.348	.424	**.835**	**.816**											
5b. Presence: Social Presence (Reflective)	4.51 (1.43)	.960	3.03	.335	.253	.326	.496	.380	.347	.477	**.988**	.738	**.866**										
6. Trust in Seller (Second-order Formative Construct)	—	—	—	.309	.310	.464	.678	.583	.508	.540	.625	.514	.619	—									
6a. Trust: Ability (Reflective)	5.48 (1.18)	.962	2.88	.272	.248	.465	.661	.584	.512	.492	.572	.476	.565	**.903**	**.865**								
6b. Trust: Benevolence (Reflective)	4.74 (1.39)	.951	2.97	.263	.272	.355	.530	.438	.369	.469	.635	.516	.631	**.840**	.645	**.866**							
6c. Trust: Integrity (Reflective)	5.40 (1.30)	.978	3.24	.289	.310	.397	.591	.501	.440	.482	.508	.416	.504	**.917**	.693	.736	**.918**						
7. Guanxi (Second-order Formative Construct)	—	—	—	.388	.327	.327	.591	.495	.487	.450	.533	.431	.530	.730	.614	.636	.705	—					
7a. Guanxi: Reciprocal Favor (Reflective)	5.06 (1.24)	.896	2.35	.331	.269	.287	.517	.423	.393	.435	.496	.420	.488	.645	.521	.616	.616	**.874**	**.683**				
7b. Guanxi: Mutual Understanding (Reflective)	4.51 (1.58)	.968	2.11	.343	.263	.213	.387	.279	.362	.312	.530	.406	.534	.566	.480	.531	.524	**.735**	.501	**.858**			
7c. Guanxi: Relationship Harmony (Reflective)	5.15 (1.37)	.928	2.44	.310	.282	.276	.500	.445	.440	.321	.355	.270	.358	.581	.516	.423	.575	**.821**	.456	.642	**.865**		
8. Transaction Intentions (First-order Reflective Construct)	5.17 (1.29)	.897	2.24	.219	.209	.361	.478	.482	.333	.309	.387	.366	.370	.640	.599	.493	.588	.656	.563	.447	.564	**.743**	
9. Past Transactions	1.94 (3.94)	—	1.23	-.011	-.014	.083	.050	.119	.065	-.083	-.008	.039	-.021	.130	.130	.089	.116	.075	.037	-.005	.117	.165	—
10. Actual Repurchases	0.55 (0.90)	—	—	.139	.120	.157	.300	.310	.206	.188	.251	.273	.229	.385	.362	.306	.347	.401	.322	.288	.369	.499	.491

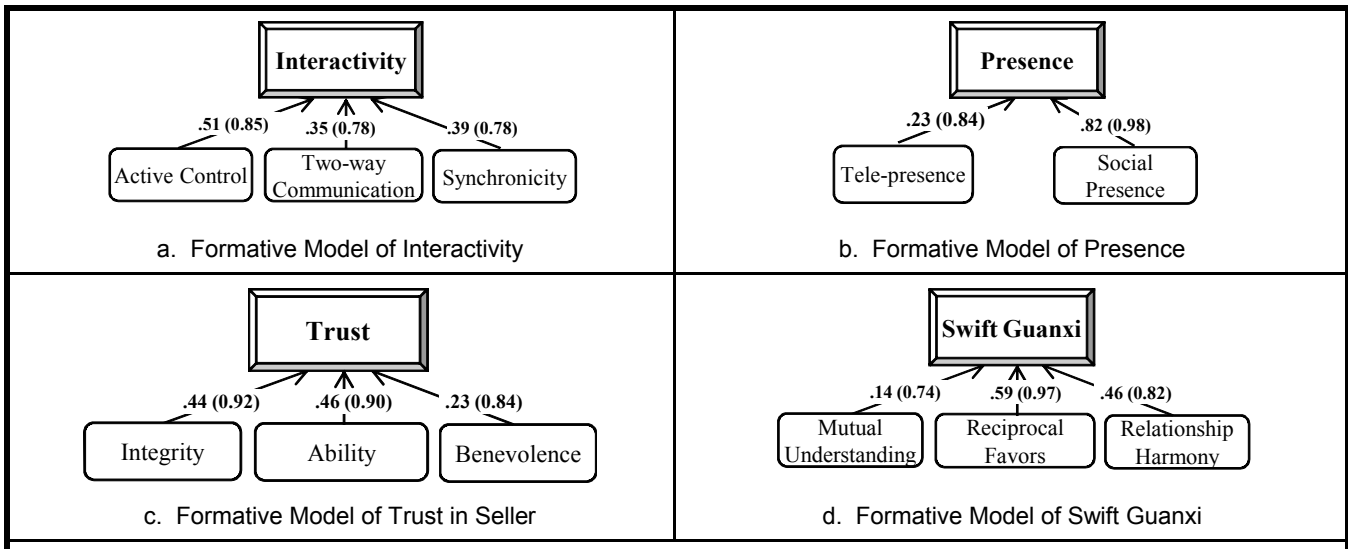
Note: Correlations among formative constructs are shown in highlighted gray. Constructs 4, 5, 6, and 7 are second–order constructs that are formatively measured. All other constructs are reflectively measured first-order constructs.

Appendix K

Testing of Formative Factors

The literature has provided various methods to validate the formative measures. For instance, Jarvis et al. (2003) listed a set of comprehensive criteria for examining construct indicators and measurement specifications. Notably, they encouraged researchers to use two baselines for formative measures—whether the construct indicators are interchangeable, and whether they have the same antecedents and consequences. Following their guidelines, we first examined the construct indicators of trust as an example. Trust covers three dimensions (i.e., integrity, ability, and benevolence). Each dimension represents a different meaning, where ability refers to skills and competencies; integrity means adhering to a set of principles the buyer finds acceptable, and benevolence is about doing good (Table 2). As a result, indicators of trust are not interchangeable. Second, past literature on trust (e.g., Gefen 2002; Gefen and Straub 2004) has informed us via empirics that integrity, ability, and benevolence have different antecedents and consequences. In sum, trust should be considered as a formatively measured construct that covers integrity, ability, and benevolence (Petter et al. 2007). In the same vein, these criteria for the formative measures are also applicable to other formative constructs in this study, including interactivity, presence, and swift guanxi.

Also following the molar model (Chin and Gopal 1995; Petter et al. 2007), the second-order formative models were modeled as the relationship between the first-order and the second-order factor in PLS. Formative models with multidimensional constructs were chosen because first-order factors capture conceptually different aspects of the second-order construct. According to Petter et al. (2007), such "multidimensional constructs provide the ability to increase granularity and detail on different aspects of a construct" (p. 628) and such "parsimonious models can provide abstractions that generate insightful explanations about a complex phenomenon" (p. 628). Following Chin et al. (2003) and Edwards (2001), we first modeled the paths from the lower-order to the higher-order construct. We then used the scores of the latent variables from the PLS analysis as the formative measures for the second-order constructs. This approach was used for all second-order formative factors (i.e., interactivity, presence, trust, and swift guanxi).



Legend: Bevels represent second-order (Interactivity, Presence, Trust, and Swift Guanxi). Rectangles represent first-order factors measured with reflective scales.

Note: The formative models were analyzed in the PLS model simultaneously with the entire structural model. The numbers in brackets are the loadings of the indicators. All weights are significant at the $p < 0.01$ level.

Figure K1. PLS Results on Formative Second-Order Factors

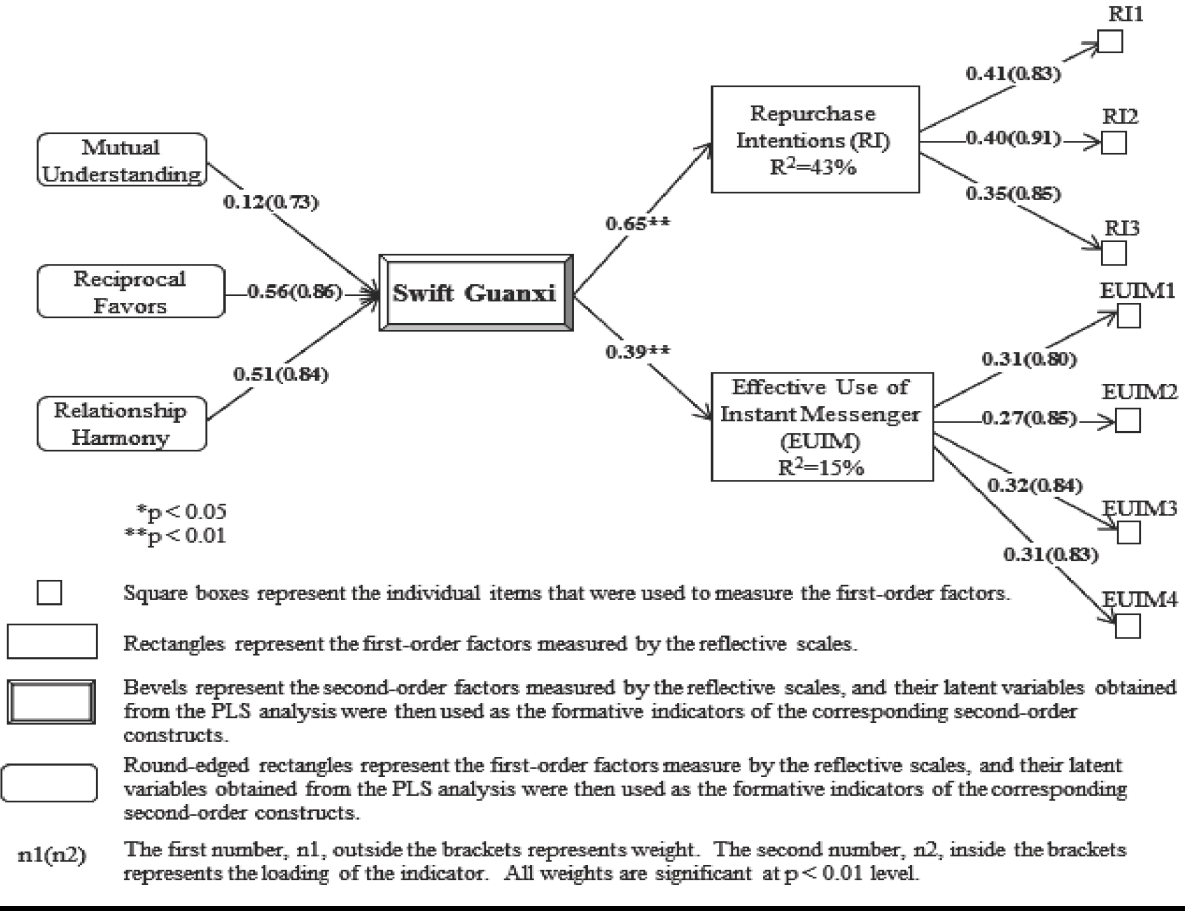


Figure K2. A Changed Nomological Network of Swift Guanxi

To verify the validity of the formative second-order constructs (Figure K1), we first examined multicollinearity in the formative constructs that "can potentially lead to unstable indicator weights" (Cenfetelli and Bassellier 2009, p. 694). We checked for indicator collinearity for the formative constructs (i.e., the first-level constructs that formed the formatively measured second-order constructs). Cenfetelli and Bassellier (2009) suggested that high correlation (e.g., 0.90) between indicators in the formatively measured construct would be a threat to the validity of formative indicators. The correlation tests indicate our formative indicators do not suffer from high correlations (Appendix J). Of greter importance, the tolerance statistics and their inverse variance inflation factors (VIF) were all acceptable when compared to the acceptable standard of 3.33 (Cenfetelli and Bassellier 2009, p. 694; Diamantopoulos and Siguaw 2006) or 10.00 (Hair et al. 1998; Mathieson et al. 2001). Although the first-order factors of the formatively measured constructs do covary, the low VIF scores suggest that these constructs have distinct effects, thereby inferring the validity of formative factors for our second-order constructs (see Jarvis et al. 2003).

Meanwhile, we conducted a modified multitrait-multimethod matrix (MTMM)[2] analysis (Loch et al. 2003) that examines whether the items used to measure each latent formative construct are more highly correlated with their own second-order construct than all other variables. The modified MTMM analysis indicates that the dimensions of interactivity are more highly correlated with their own second-order construct than all other items. This pattern is also found for the presence and swift guanxi items (highlighted in gray in Appendix J). Then, we constructed all formative second-order factors measured with first-order factors in the PLS model. The results in Figure 2 (and Figures O1 and O2) show that all first-order factors are significant when simultaneously analyzed with the entire PLS model. These results further support the validity of the formative second-order constructs.

[2]The traditional MTMM analysis can be found in Straub (1989) and Malhotra et al. (2006). The current studies used a modified MTMM method by analyzing the correlation matrix of first-order constructs. We validated the self-reported data with secondary data in Table L1.

Another important issue of the formative measurement is the relative invariance of a construct's weights when the construct is used in different nomological networks (Cenfetelli and Bassellier 2009, p. 698), although the same degree of variance should be always expected (Diamantopoulos 2006). Given the focus of this study on swift guanxi, we changed the nomological network of swift guanxi in a revised model by adding a reflectively measured construct (effective use of instant messenger) as the outcome variable of swift guanxi. The comparison between the original models (Figure 2 and Figure K) with the changed nomological network of swift guanxi (Figure K2) shows that changes of the relative magnitude of indicator weights are small. A similar pattern was found when we used other reflectively measured constructs as the outcome variable of swift guanxi in the changed nomological networks, suggesting the formative measurement's construct portability (see Cenfetelli and Bassellier 2009).

Appendix L

Validation of Measurement Items with Secondary Data

To test the self-reported measures used in the online questionnaire, we ran correlation tests with the secondary data. First, for the effective use of IM, message box, and feedback system, we used a three-part binary question: Did you use WangWang/message box/feedback system in the last transaction with this seller? (Appendix G). In fact, the effective use of CMC tools is significantly correlated with the corresponding binary variables. Second, since interaction is a key part of customer service (Parasuraman et al. 1985), we treated the third-party archival data about service performance as a proxy of interactivity. We conducted the correlation test between interactivity and seller's service performance (Table 3), which was also significant ($r = 0.09$, $p < 0.05$). Third, we used the seller's online status (measured by the online status in the morning, afternoon, and evening) (Table 3) to validate the scale of presence. For each time slot, the effect on online status was 0.20 ($p < 0.01$), 0.38 ($p < 0.01$), and 0.27 ($p < 0.01$), respectively. The overall correlation between presence and online status was significant ($r = 0.10$, $p < 0.01$). These significant correlations between the secondary and self-reported data (Table L1) denote support for the validity of the instrument items and their correspondence with archival data recorded in the marketplace.

Table L1. Validation of the Self-Reported Data with Secondary Data

Constructs	Corresponding Secondary Data	Correlation
Effective Use of Instant Messenger	The use of IM with the focal seller (binary variable)	$r = 0.39$ ($p < 0.01$)
Effective Use of Message Box	The use of message box with the focal seller (binary variable)	$r = 0.58$ ($p < 0.01$)
Effective Use of Feedback System	The use of feedback system with the focal seller (binary variable)	$r = 0.16$ ($p < 0.05$)
Interactivity	Evaluation score of each focal seller's service performance (mean score ranging from 0~5 provided by all previous buyers)	$r = 0.09$ ($p < 0.05$)
Presence	Seller's online status in morning, afternoon, and evening sessions	$r = 0.10$ ($p < 0.05$)

Appendix M

Testing for Common Method Bias and Multicollinarity

Testing for common method bias (CMB) involved five steps in this study. First, evidence for CMB exists when (1) a single factor emerges from exploratory factor analysis (unrotated) or (2) one general factor accounts for the majority of the covariance of the variables (Podsakoff et al. 2003, p. 889). The unrotated principal components factor analysis (omitted for brevity) indicates 38.56 percent of the total variance, implying that CMB is not substantial (see Vance et al. 2008). In addition, the rotated solution of the exploratory factor analysis shows that each principal factor explains roughly equal variance (3.9%~7.1%), further suggesting the lack of CMB. Second, the correlation matrix (Appendix J) shows that all correlations are below 0.74, while CMB is evidenced by extremely high correlations ($r > 0.90$) (Bagozzi et al. 1991). Third, we obtained the measures of the predictor and the criterion variables from different sources, following Podsakoff et al.'s (2003) guidelines to prevent CMB. Although our data on the independent and mediating variables was gathered from primary data (i.e., same source of respondents) in an online questionnaire that is hence still subject to CMB, our dependent variable (actual repurchases) was collected from the TaoBao website (through archival sources). Such system-captured data can significantly lower the susceptibility to CMB due to data source, response format, objective, and abstractness of measures (Sharma et al. 2009). Podsakoff et al. contended that the most effective way to control CMB is to include procedural controls, such as obtaining measures from different sources and temporal separation of measures. In addition, we validated the instrument scales used in the questionnaire with other secondary data (Table L1). Fourth, we created temporal separation (4 months) by introducing a time lag between the measurement of the dependent variable (actual repeat transactions) and its predictors. Podsakoff et al. highlighted that this technique is "particularly important in the study of attitude-attitude relationships" (p. 887) to reduce the potential of CMB. Taken together, these tests provide evidence that CMB is not a serious problem for this study.

To test for multicollinearity, collinearity diagnostics for all constructs were also conducted. The analysis shows that the tolerance values and their inverse VIFs (as shown in Appendix J) are all less than the acceptable cut-off points 3.33 (Cenfetelli and Bassellier. 2009). These findings imply no major multicollinearity problems.

Appendix N

Additional Analyses (Mediation and Moderation Tests)

With the attempts to explore the respective roles of swift guanxi and trust on repurchase intentions, we conducted the following additional hierarchical regression analyses. First, in a simplified model, we took trust as the only independent variable. The PLS results show that trust explained 42 percent of the variance of repurchase intentions (Figure N1). When taking swift guanxi as the only independent variable, the variance explained to repurchase intentions was 43.4 percent (Figure N2). Integrating both swift guanxi and trust in the model explains 50 percent of the variance of repurchase intentions (Figure N3). These hierarchical regression analyses indicate that when controlling for the effect of trust, swift guanxi can explain an additional 8 percent of the buyers' repurchase intentions.

The results show that both trust and swift guanxi explain a substantial part of the variance in repurchase intentions. Given the role of trust in online transactions, as demonstrated by prior research, swift guanxi adds further value in shaping repurchase intentions. This is evident in the additional variance (R^2) of repurchase intentions that yields an additional 8 percent of variance explained. Based on these results, we argue that transactions in online marketplaces require both trust and swift guanxi, suggesting that these two concepts are complementary. In situations when the institutional and legal environment is equally deficient for both buyers and sellers, interpersonal relationships (i.e. swift guanxi) can constitute a key contributor to the likelihood that a transaction will be completed.

According to the literature (e.g., Arias 1998; Martinsons 2008), guanxi matters more when there is a lack of institutional trust. In this study, this position suggests that guanxi has a stronger effect on those buyers with lower institutional-based trust, meaning institutional-based trust negatively moderates the effects of swift guanxi toward repurchase intentions. To empirically test this position, we conducted additional analyses. We took the construct *trust in transaction platform* as the moderator of the path between *swift guanxi* to *repurchase intentions* in a simplified model (Figure N4). Although the moderating effect of *trust in transaction platform* is negative, however, it was not statistically significant (Figure N4).

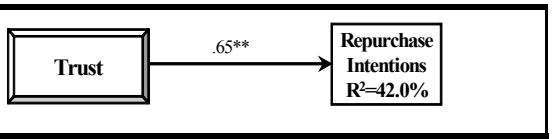


Figure N1. Trust

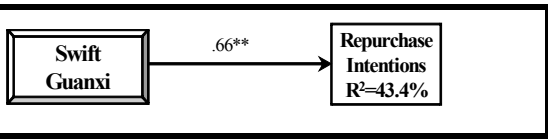


Figure N2. Swift Guanxi

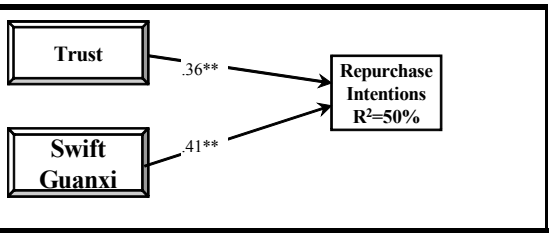


Figure N3. Swift Guanxi and Trust

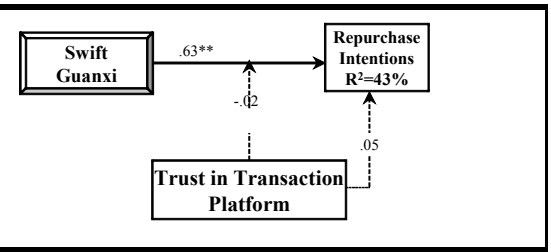


Figure N4. Swift Guanxi and Trust in the Transaction Platform

In addition, we also examined the mediating role of interactivity and presence in the relationship between the effective use of the three CMC tools and swift guanxi using the mediation test (Edwards and Lambert 2007), which integrated the mediation tests with the causal step procedures suggested by Baron and Kenny (1986). A competing model with a direct link from the effective use of the three CMC tools to swift guanxi was also tested. The results showed that the direct effects of the effective use of the three CMC tools on swift guanxi were initially significant (IM: $r = 0.28$; $p < 0.01$; MB: $r = 0.24$, $p < 0.01$; FS: $r = 0.21$, $p < 0.05$). However, their direct effects on swift guanxi became insignificant (IM: $r = 0.07$, $p > 0.10$; MB: $r = 0.13$, $p > 0.10$; FS: $r = 0.07$, $p > 0.10$) when interactivity ($r = 0.35$, $p < 0.01$) and presence ($r = 0.34$, $p < 0.01$) were included as mediators in the model. Using the same mediation tests, the direct effects of IM ($r = 0.14$; $p < 0.01$), MB ($r = 0.19$, $p < 0.01$), and FS ($r = 0.39$, $p < 0.01$) on shaping trust changed to insignificant (IM: $r = 0.10$, $p > 0.10$; MB: $r = 0.07$, $p > 0.10$; FS: $r = 0.08$, $p > 0.10$) when including interactivity ($r = 0.39$; $p < 0.01$) and presence ($r = 0.35$; $p < 0.01$) in the model. These analyses also indicated the full mediation effects of interactivity and presence in the relationship between the effective use of the three CMC tools and trust. In sum, these tests support the full mediating role of interactivity and presence, further supporting of the proposed mediating effects in the proposed research model.

With the same rationale and steps, we explored the mediation effect of repurchase intentions on the paths from swift guanxi and trust to the final DV (actual repurchases). A competing model with a direct effect of swift guanxi and trust to actual repurchases was examined. The results showed that swift guanxi ($r = 0.26$; $p < 0.01$) and trust ($r = 0.18$; $p < 0.01$) can directly affect actual repurchase without the presence of repurchase intentions in the model. However, their direct effects became insignificant (swift guanxi: $r = 0.10$, $p > 0.10$; trust: $r = 0.06$, $p > 0.10$) when including repurchase intentions ($r = 0.40$; $p < 0.01$) as the mediator in the model. In sum, these tests support the full mediating role of repurchase intentions as proposed in the research model.

In addition, we compared a theoretical model with three saturated models that focus on swift guanxi, repurchase intentions, and the dependent variable actual repurchase, following the method suggested by Gefen et al. (2011). In the first saturated model, we included all the possible paths from other principal constructs to swift guanxi. The calculation[3] yielded a small f^2 value, the standard measure of effect size, of 0.05. Meanwhile, all the original paths remained significant. With respect to the second and the third saturated models focusing on repurchase intentions and actual repurchase, the f^2 values are 0.03 and 0.05, respectively, all the original paths remain significant. Our results ($f^2_{\text{saturated model 1}} = 0.05$, $f^2_{\text{saturated model 2}} = 0.03$ and $f^2_{\text{saturated model 3}} = 0.05$) indicate that only small effects (f^2 values of 0.02 to 0.05) (Chin et al. 2003; Cohen 1988; Gefen et al. 2011) were observed in the saturated models, suggesting that adding the paths via the saturated models does not significantly increase the effect size and thus further proves the predictive power of the theoretical model.

Additional insights related to individual CMC tools are also evident in Appendix J. IM is shown as the most effective tool in terms of facilitating synchronicity ($r = 0.472$, $p < 0.01$), two-way communication ($r = 0.414$, $p < 0.01$), and telepresence ($r = 0.335$, $p < 0.01$), while the feedback system is best in creating active control ($r = 0.524$, $p < 0.01$) and social presence ($r = 0.326$, $p < 0.01$). Compared to the other two

[3]The formula is documented in Gefen et al. 2011, page viii.

CMC tools, message box presents moderate correlations with interactivity and presence. In terms of their correlation with trust and guanxi, IM is most linked with guanxi ($r = 0.388$, $p < 0.01$), while the feedback system is more linked to trust ($r = 0.464$, $p < 0.01$). In the online questionnaire, we also asked how long the buyers chatted with the focal seller in the first transaction. The results were that 154 buyers (45.6%) spent between a few minutes and 10 minutes in IM chatting; 78 buyers (23.1%) spent more than 10 minutes (but less than 1 hour) in IM chatting. The average time buyers spent in IM chatting with the focal buyer is about half an hour, suggesting buyer–seller guanxi can be swiftly developed in the online marketplace. Theoretical and practical implications of these findings are discussed in the "Implications" section of the paper.

Our data also indicate that 19.5 percent of the buyers did not use IM, 61.2 percent did not use the message box, and 7.4 percent did not use the feedback system during their last transaction. Our data also shows that 63.9 percent of the respondents frequently used IM during their TaoBao transactions in general at a scale of seven out of seven. Thus, IM, together with the feedback system, is actually used in most transactions. This provides further evidence for the expansive role of WangWang in TaoBao's online marketplace. However, all 338 questionnaire participants used at least one of the three CMC tools during their last purchase. An independent sample t-test showed buyers who used IM perceived IM to be significantly more effective than non-users. The same pattern was shown for the users/non-users of the message box and feedback system. In addition, we conducted three separate PLS analyses without the non-users of IM, message box, and feedback system, and we used Chin's method on multiple group analysis[4] and the Smith-Satterthwait test to compare the regression coefficients of the two samples. The results showed no significant difference between the two samples, confirming the robustness of the overall model.

Because that product category may have an impact on our proposed model, we compared the product categories reported by our respondents with those reported by a much larger nationwide survey in China (CNNIC 2011, p. 17). The comparison of the frequency of product categories confirmed the consistency between the two sets of data. Second, we took the frequency of product categories as a criterion to compare across all constructs used in our model. The ANOVA test indicated no significant difference across our constructs. Third, we examined the potential direct and moderating effects of product category on all paths in our research model, but the proposed model did not substantially change. Taken together, our research model remains robust across product categories.

Appendix O

The Moderating Role of Prior Purchases

To examine whether past transactions moderate the effect of swift guanxi on intentions or actual repurchases, we conducted additional analyses. The tests in Figures O1 and O2 indicate that the moderating effects of past transactions and prior purchases on the effect of guanxi on intentions or actual repurchases were not significant.

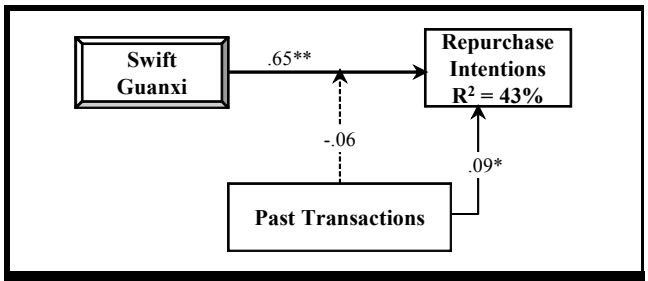


Figure O1. The Moderating Test 1 for Past Transactions

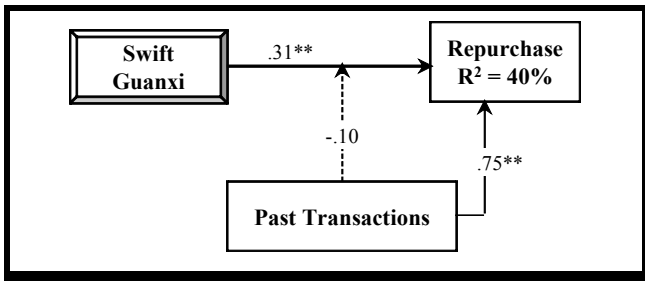


Figure O2. The Moderating Test 2 for Past Transactions

[4]Available at "http://disc-nt.cba.uh.edu/chin/plsfaq/multigroup.htm.

In order to drill down to the detailed effects of prior purchases and swift guanxi in different stages of purchases, we also create another variable called *Repeat Customer* where Repeat Customer = 1 for those respondents with prior purchase(s), otherwise Repeat Customer = 0. The moderating effect of Repeat Customer on the path between swift guanxi on actual repurchases is found to be significant, but not for repurchase intentions (Figures O3 and O4). The integrated results of the above tests imply that the effect of swift guanxi on repurchases may be highlighted such that the initial guanxi development may have lesser weight, although the moderating effect of past experiences on the path between swift guanxi on actual repurchases may not be linear.

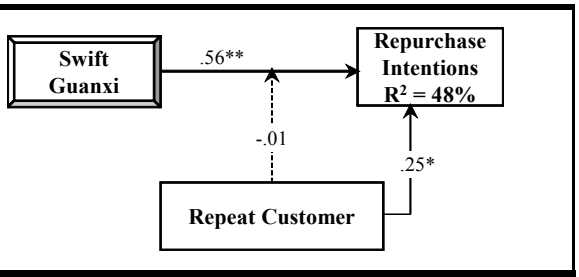


Figure O3. The Effects of Swift Guanxi on Repurchase Intention in Different Stages of Purchases

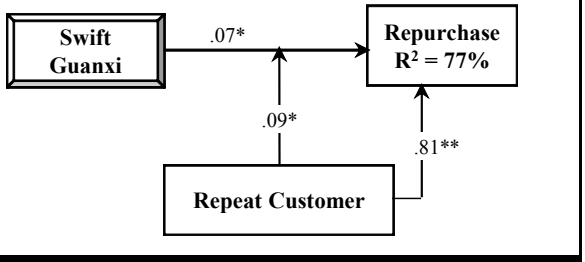


Figure O4. The Effects of Swift Guanxi on Repurchase in Different Stages of Purchases

Appendix P

Robustness Checks across Two Samples

In our sample, 226 respondents (66.9%) were one-time buyers (meaning they only purchased once from the focal seller during the period of investigation), while 112 respondents (33.1%) were repeat buyers (meaning they purchased from the focal seller more than once). There may be inherent differences between one-time and repeat buyers. In order to compare one-time and repeat buyers relative to all buyers, we tested two models with the samples of one-time buyers (Figure P1) and repeat buyers (Figure P2), in order to examine the robustness of the research model across two samples.

When comparing across the three samples (Figures 2, P1, and P2), several interesting findings can be identified. First, both trust and swift guanxi remain significant in all three samples, while it appears that they render different influences on shaping a buyer's repurchase intentions. Specifically, swift guanxi appears increasingly powerful to determine repurchase intentions when comparing one-time purchasers ($r = 0.33$, $p < 0.01$) and repeat purchasers ($r = 0.43$, $p < 0.01$). In contrast, trust appears to have a decreasing effect on repurchase intentions for repeat buyers.[5] Second, the changing effect of interactivity and presence across one-time and repeat buyers is noticeable. The significant direct effects of interactivity ($r = 0.22$, $p < 0.01$) and presence ($r = 0.10$, $p < 0.10$) on guanxi building are evident only for one-time buyers (Figure P1), but not for repeat buyers (Figure P2: interactivity →swift guanxi, $r = 0.09$, $p > 0.10$; presence → swift guanxi, $r = 0.08$, $p > 0.10$). The data, however, suggest that trust does contribute more ($r = 0.59$, $p < 0.01$) to strengthen the effect of guanxi for repeat buyers, and it overwhelms the direct effect of interactivity and presence on guanxi. These results don't mean that repeat buyers don't need to maintain guanxi through interactivity and presence. On the contrary, the results support the important roles of interactivity and presence in shaping guanxi for the repeat buyers, but through an indirect route that involves strengthening buyers' trust. Without the contributions of interactivity and presence to trust (explaining 61% of the variance), the foundation for guanxi may not be strong. These results suggest the critical role of trust in building buyer–seller guanxi, especially for repeat buyers. In this sample, the effects of interactivity and presence on buyer–seller guanxi are indeed mediated by trust. Third, Figure P2 suggests that the message box is much less important on interactivity. This is reasonable because when

[5]This finding is consistent with past studies on trust and guanxi. For example, Ambler et al. (1999) found that trust and guanxi can separately predict export performance of inter-province export ventures in China. They showed that guanxi had a stronger effect ($\beta = 0.38$; $p < 0.01$) than trust ($\beta = 0.15$; $0.05 < p < 0.1$) on export performance over the first 3 years of a sales relationship. However, trust exerted an insignificant effect on export performance in the last 2 years of the relationship, while the effect of guanxi remained strong throughout the 5-year period of observation.

buyers become accustomed to IM to communicate with sellers ($r = 0.40$, $p < 0.01$), the message box may be considered as a less effective tool for communication. Fourth, the significant control variables on trust (trust in transaction platform, positive experience, and past transactions) for one-time buyers and all buyers became insignificant for repeat buyers. This result implies that dyadic trust based on first-hand experience with IM and feedback system weighs much more heavily than the institutional protection provided by the transaction platform for repeat buyers.

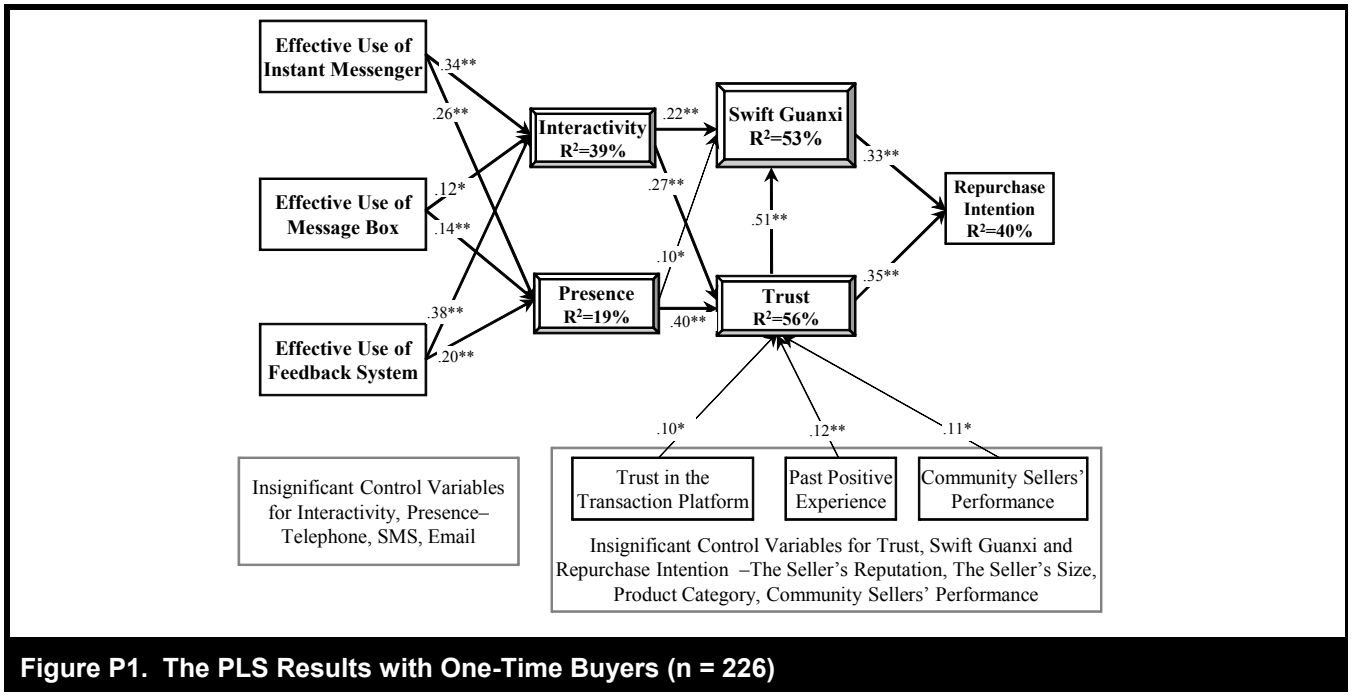


Figure P1. The PLS Results with One-Time Buyers (n = 226)

Note: Two constructs (*actual repurchases* and *past transactions*) are excluded from the PLS analysis of Figure P1 because no variance can be observed (i.e., all values are zero for these two constructs for one-time buyers).

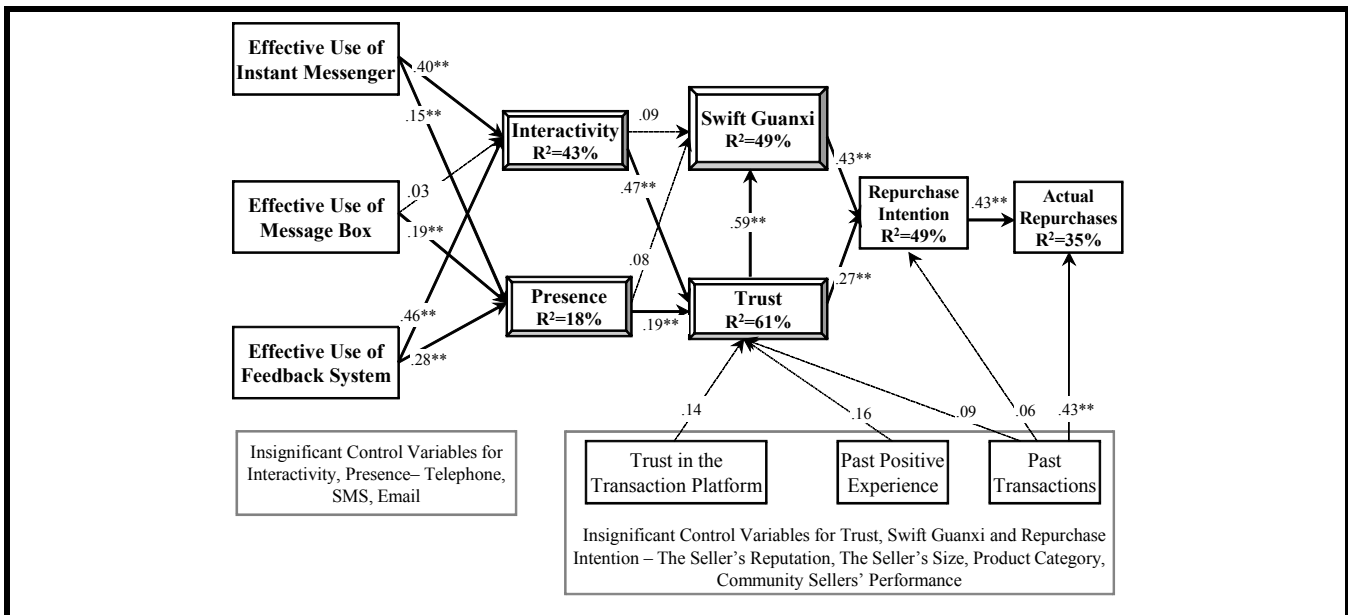


Figure P2. The PLS Results with Repeat Buyers (n = 112)

Appendix Q

Qualitative Analysis and *Ex Post* Explanations

Given the salience of IM in Chinese transaction platforms, we also collected buyers' feedback on WangWang using an open-ended question ("Please comment on whether/how WangWang has facilitated your online purchases at TaoBao") in order to develop a more complete picture of the role of IM technology. Sample comments include "IM is the most convenient method for prompt communication because I can talk to the seller immediately when necessary" and "The seller warmly greeted me in WangWang and provided very detailed answers [to my questions] in the conversation, exactly like a normal traditional bargaining and transaction process" (thus implying presence). Another respondent commented that WangWang helps buyers "get timely product information, bargain on prices, ask about the delivery process and know the sellers better" (implying interactivity). Another type of comment indicated "WangWang tells me whether the sellers are online. Normally, I can get sellers' replies very quickly on WangWang. This tool helps me make the buying decision. I think WangWang has facilitated the buying-and-selling guanxi building in TaoBao via the direct interaction." These qualitative data imply the critical role of WangWang, interactivity, and presence in the process of establishing buyer–seller guanxi.

In addition to WangWang, we also asked the respondents to briefly describe how the platform-embedded message box and the feedback system have been used in their transaction process at TaoBao. The message box is described by the respondents as "a convenient venue for us [buyers] to pick up extra product explanations, such as functions, characteristics, strengths and weaknesses, because the one [seller]-to-many [potential buyers] conversations can reveal more product details that may not be documented in the standard product description webpage." With respect to the feedback system, the respondents evaluate it as "a necessary tool because it documents the history of all transaction records of sellers." Also, the feedback system is considered by the buyers as "both a communicative and a control mechanism that allows them to share their transaction evaluations with the seller after the transaction." Together with the comments on the IM and message box, these qualitative descriptions offer support for the role of CMC technology in facilitating interactivity and presence in TaoBao's online marketplace.

Since swift guanxi is the study's primary focus, we also included an open-ended question where buyers could comment on swift guanxi. Specifically, most of the questionnaire participants preferred buying from those sellers they "know," meaning "a quick and minimal understanding of the sellers' behavior prior to the transactions," with the aid of online communication tools. The importance of reciprocal favor in such buyer–seller guanxi was also highlighted by the comments from several buyers (e.g., "I received a small gift, a souvenir of my favorite football team, from the seller. What a surprise but I know this is an extra gift for my birthday! I felt very happy about this gift because the seller knew what I like. I will certainly buy from him again!"). In a combinative sense, this qualitative feedback provides further support that swift guanxi between buyers and sellers is a common phenomenon in TaoBao's online marketplace and also underscores its positive influence on repurchase behavior.

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