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## Understanding the Relationships between Multi-dimensional Trust and E-loyalty in E-commerce

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### Abstract

*As online shopping is becoming more and more popular in recent years, many studies have been conducted to explore the key issues involved in online shopping such as trust problems and strategies to retain customers. This study will explore the nature of trust and its relationship to consumer loyalty in E-commerce. It examines the importance of trust to consumers' loyalty behaviour and how consumer behaviour is affected by different kinds of trust. The study also identifies the antecedents of each kind of trust. A research model is developed with several hypotheses which are proposed for empirical examination. Finally a research plan is presented and implications are provided.*

### Keywords

Trust, e-loyalty, e-commerce

### INTRODUCTION

Since the late 1990s, online shopping has taken off as an increasing number of consumers purchase products on the Internet. There are many benefits of doing business online such as eliminating transaction inefficiencies, reducing costs, and lowering barriers to entry (Bhattacharjee 2001). Furthermore, use of the Internet as a marketing tool has the potential to reach possible customers more quickly, and can better improve relationship with customers (Poon and Swatman 1999). Thus, more and more companies begin to conduct businesses online.

Winning consumer loyalty is the most important task for e-business because it is a major driver for success in e-commerce (Reichheld and Scheffer 2000). From the business perspective, acquiring a customer is much more difficult and inefficient than keeping a customer, as costs associated with acquiring new customers are five times the cost of retaining customers (Keaveny 1995). In addition, according to Reichheld and Scheffer (2000), an increase in customer retention rates by only 5 percent can increase profits by 25 to 95 percent and the high costs of acquiring new e-customers can lead to unprofitable customer relationships for up to three years. Consequently, it is crucial for online companies to retain customers.

Trust has been emphasised as a determinant of customer loyalty throughout the literature (Pavlou 2003; Schlosser et al. 2006). It has been brought forward as a precondition for patronage behaviour and the development of long-term customer relationships (Doney and Cannon 1997; Singh and Sirdeshmukh 2000). Trust generally decreases the perceived risk and uncertainty (Ellen and Mark 1999). The role of trust could be even more important in the e-commerce setting, since e-customers do not deal directly with the physical store, or its staff (Urban et al. 2000). Although Information Systems (IS) researchers' interest in the topic of trust has increased, to date studies on the trust construct have provided a limited view of the phenomenon. Two significant gaps are evident in the research.

First, Grabner-Krauter and Kaluscha (2003) observe that research in this area is limited by differing conceptualisations of the construct and a blurring of the distinction between trust itself and its antecedents. Shankar et al (2002) have also emphasized the lack of clear distinctions between the underlying dimensions and antecedents of on-line trust. They notice that the trust constructs being investigated are blurred and not well differentiated, and the elements and determinants of on-line trust are often used interchangeably. Mcknight and Chervany (2002) argue that it is better and necessary to provide a typology of trust since trust is such a broad concept and is defined in so many different ways. However, a review of previous studies including more recent studies illustrates that most of previous studies have used a one-dimensional scale of

trust. For instance, Kim et al (2008) include a relatively comprehensive set of predictors of trust, but the trust scale is one-dimensional. This approach may be meaningful in a certain context, but it may lead to an incomplete understanding of trust and its predictors (Grabner-Krauter and Kaluscha 2003). Thus, the first goal of this study is to differentiate trust elements and its antecedents, where trust is represented as a multi-dimensional scale. Second, there is a lack of comprehensive understanding of the relationships between trust and e-loyalty. Most of the previous studies define trust as a one-dimensional construct when exploring the nature of trust and its effect on the related human behaviour (Cyr 2008; Kim et al. 2008; Ribbink et al. 2004). Although different studies address different aspects of the trust problems, few researchers have compared how different types of trust affect e-loyalty in e-commerce. Considering the multi-dimensional nature of the trust, it is necessary to re-visit the relationships between various aspects of trust and e-loyalty.

To be specific, this study is designed to present a multi-dimensional insight into the nature of consumer trust online. By defining trust as a multi-dimensional construct, the impact of different dimensions of trust on e-loyalty, the relationships among different dimensions of trust, and the antecedents of trust will be examined. Accordingly, there are three research questions to be examined in this study:

- (1) How do different types of trust differ in their significance to e-loyalty?
- (2) What are the relationships among different dimensions of trust?
- (3) What are the antecedents of each kind of trust in B2C online transaction?

The rest of this paper is organised as follows. First, after reviewing the key concepts of this study, hypotheses are developed with respect to the relationships between different types of trust and e-loyalty. Then, the antecedents of trust are discussed and hypotheses are proposed for empirical examinations. A research model summarising the hypotheses is subsequently presented. Next, the research design will be introduced and finally the paper will be concluded by discussing the anticipated implications of the proposed research.

## LITERATURE REVIEW

### E-loyalty

Online loyalty, or e-loyalty, has been defined as “a consumer’s intention to buy from a web site, and that consumer will not switch to another web site” (Flavian et al. 2006,p.5). In online settings , understanding how to improve customer loyalty remains one of the crucial management issues of our day (Luarn and Lin 2003). Loyalty can help to guarantee the future earnings of an organisation (Sharp and Sharp 1997). Actually, most of previous studies show that retaining customers is a more profitable strategy than only increasing market share or decreasing the selling costs (Zeithaml 2000). Overall, the most efficient way to create loyalty is to meet the needs of the customers better than competitors do (Reynolds and Beatty 1999). In e-commerce, e-vendor comes with a great challenge as it is easy to switch to another product or service provider. As a result, consumers are able to compare the competing products and services with minimal expenditure of personal time or effort. So online companies need to understand the requirements of the customers better than competitors do in order to retain customers.

### Trust and Trust Dimensions

Throughout the literature, the definition of trust proposed by Mayer et al (1995) is the most widely-accepted. It is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trust or, irrespective of the ability to monitor or control that other party” (Mayer et al. 1995,p.712). Lack of trust is frequently cited as a reason for not purchasing online (Lee and Turban 2001). In addition, trust has been emphasized as a determinant of customer loyalty throughout the literature (Pavlou 2003; Schlosser et al. 2006). Lots of prior studies provide evidence supporting the positive relationship between trust and e-loyalty (Cyr 2008; Jin et al. 2008; Ribbink et al. 2004), in terms of increased spending, or intentions to repurchase. So trust appears to be especially important for creating loyalty when the perceived level of risk is high (Anderson and Srinivasan 2003).

Due to its importance in e-commerce, many authors, especially in the fields of information systems and marketing, have theorised consumer trust in e-commerce (Lee and Turban 2001; Mcknight and Chervany 2002; Tan and Sutherland 2004). According to these theorisations, it has been explicitly recognised that there are three different types of trust: institutional, interpersonal, and dispositional trust. For instance, Mcknight and Chervany (2002) provide an interdisciplinary model of high-level trust concepts. They define trust into three constructs: dispositional trust, institutional trust and interpersonal trust. Followed by them, Tan and Sutherland (2004) synthesise the view points from across the disciplines and bring them together in a multi-dimensional trust model including dispositional trust, institutional trust and interpersonal trust. They also

make propositions that dispositional trust will affect interpersonal trust and institutional trust, and institutional trust has impacts on interpersonal trust. However, the empirical test of the relationships between three dimensions of trust and e-loyalty is lacking.

#### Interpersonal Trust

Interpersonal trust focuses on the trust formed in another specific party. In the context of e-commerce, it is the assessment by the consumer in regards to the trustworthiness of the electronic vendor (Tan and Sutherland 2004). For example, consumers can consider some e-vendors more reliable than others based on the e-vendor's brand or the vendor's familiarity to consumers (Pennanen et al. 2007). Prior research on traditional commerce focused primarily on interpersonal trust such as a customer's trust in a salesperson. In the e-commerce context, researchers tend to define interpersonal trust as a subjective belief, a subjective probability, the willingness of an individual to be vulnerable, reliance on parties other than oneself (Bhattacharjee 2002; Mcknight and Chervany 2001; Pavlou 2003). In a recent study, Kim et al. (2008) define interpersonal trust as a consumer's subjective belief that the selling party or entity will fulfil their transactional obligations as the consumer understands them. There is some evidence supporting a positive relationship between interpersonal trust and e-loyalty, in terms of increased spending or repeated purchasing behaviour (Cyr 2008; Liu et al. 2005). Therefore, it can be hypothesised that:

H1: Interpersonal trust will be positively related to e-loyalty.

#### Institutional Trust

Institutional trust takes into account the sociological viewpoint that trust is a social structure that is situational constructed. According to Tan and Sutherland (2004), this dimension draws upon the idea of forming trust in the Internet as a whole, and therefore trusting the technology. More specifically, institutional trust means consumers' perceptions about the Internet environment, such as safety and security (Mcknight and Chervany 2002), legal and technical protection (Tan and Sutherland 2004) or some trusted third party like Visa or a bank (Cheung and Lee 2006). It is at this institutional level that the individual's perception of the regulations, legal and technical environment comes to fruition (Mcknight and Chervany 2002). Therefore, it is defined as the degree of confidence customers have in online exchanges, or in the online exchange channel (Ribbink et al. 2004). If individuals do not trust that the Internet offers sufficient regulation, legal or technical protection, they are unlikely to hold a high level of trust in the Internet as a shopping medium. There is evidence supporting a positive relationship between institutional trust and e-loyalty (Ribbink et al. 2004). Then, the following hypothesis is proposed:

H2a: Institutional trust will be positively related to e-loyalty.

Institutional trust is also thought to have an impact on interpersonal trust online. Mcknight and Chervany (2002) propose that the consumers' beliefs that the Internet has legal or regulatory protections can influence their trust in the e-vendor. Tan and Sutherland (2004) propose a conceptual model which indicates that institutional trust will affect interpersonal trust in e-commerce. However, both of the articles only provide conceptual frameworks and lack the empirical tests. Much of the previous research has not addressed institutional trust when exploring the nature of trust in e-commerce. Thus, the empirical evidence of the relationship between institutional trust and interpersonal trust is lacking. Tan and Sutherland (2004) argue that if the individual is unfamiliar with the Internet or does not believe there are adequate regulations and security features protecting them online, their assessment of the trustworthiness of the online vendor will also be affected.

H2b: Institutional trust will be positively related to interpersonal trust.

#### Dispositional Trust

Dispositional trust means individual's trust in general, which is based upon the individual's belief that other people are well-meaning and reliable (Tan and Sutherland 2004). Previous studies demonstrate that dispositional trust has positive effects on interpersonal trust (Kim et al. 2008; Tan and Sutherland 2004), institutional trust (Mcknight and Chervany 2002; Tan and Sutherland 2004), and intention to purchase online (Tan and Sutherland 2004). The individual's dispositional trust varies depending on his/her character and life experience (Tan and Sutherland 2004). Chung and Lee (2003) find that personal characteristics of consumers such as innovativeness and social interaction orientation have positive effects on online shoppers' repurchase intention. While personal character is the main factor in formation of dispositional trust, then dispositional trust may have a positive effect on e-loyalty. Based on the above discussion, the following hypothesis is proposed:

H3a: Dispositional trust will be positively related to e-loyalty.

Dispositional trust plays a particularly important role in the interaction between unfamiliar parties in e-commerce (Grabner-Krauter and Kaluscha 2003). It is therefore especially important in novel situations such as using e-commerce (Gefen et al. 2003). It is also the base of consumers' interpersonal trust and institutional trust (Kim et al. 2008; Pennanen et al. 2007; Tan and Sutherland 2004). If individuals find it easy to trust, they will be likely to consider purchasing online and this dispositional trust is likely to positively affect their trust in a specific selling party (McKnight et al. 1998). Tan and Sutherland (2004) argue that dispositional trust could be looked upon as the necessary foundation in the formation of trust as it is a prerequisite for the other dimensions of trust. Dispositional trust has been proposed to have positive effects on institutional trust and interpersonal trust (McKnight and Chervany 2002). Consequently, it can be hypothesised that:

H3b: Dispositional trust will be positively related to institutional trust.

H3c: Dispositional trust will be positively related to interpersonal trust.

### **Antecedents of Trust in E-commerce**

**The antecedents of trust have been explored in prior studies (Connolly and Bannister 2007; Kim et al. 2008; Lee and Turban 2001), and each of the studies has addressed different aspects of the trust problem. Most of them, however, focused on interpersonal trust and only a few articles have addressed institutional trust. In the following section, the main factors which may have impacts on different types of trust will be discussed.**

#### **Privacy Protection**

In the context of e-commerce, privacy protection refers to consumers' perception of the likelihood that the e-vendors will try to protect their confidential information during electronic transactions from unauthorised use (Kim et al. 2008). Privacy concerns in B2C commerce become an important issue because of the organisation's potential ability to access, store, and share the consumers' personal information (Liu et al. 2005). In the transaction process, the online seller collects the names, e-mail addresses, phone numbers and the home addresses of the customers; they can then sell the information to telemarketers and the direct mailers. The illegal collection and sale of personal information could harm consumers' in a variety of ways, ranging from simple spamming to fraudulent credit card charges and identity theft (Ratnasingham 1998). Therefore, for many online consumers, loss of privacy is a main concern and the protection of private information is crucial. Perceived privacy protection has been tested positively related to trust (Belanger et al. 2002). Accordingly, the following hypothesis is proposed:

H4: Perceived privacy protection is positively related to interpersonal trust.

#### **Security Protection**

Security protection is defined as the protection of unauthorised access, destruction, use or disclosure of the data (Shalhoub 2006). Many consumers are afraid of false information or are not sure about the statements displayed on the website and are reluctant to release payment card information to online merchants, fearing a loss of control over their accounts (Shareef et al. 2008). When the consumers find security features in the online store's website, such as security policy, security disclaimer, a safe shopping guarantee, they can recognise the seller's intention to fulfil the security requirements during online transactions (Pavlou 2003). Also the protection mechanisms such as the encryption and authentication on the website can make the customers feel more confident about the online shopping medium: the Internet environment. Thus, the perceived security protection can improve the institutional trust as well. The security protection has been found to have positive impacts on the trust of the e-vendors (Ahgriawan and Thakur 2008; Kim et al. 2008) and the Internet shopping medium (Kassim and Abdullah 2008; Ribbink et al. 2004). From the above discussion, the following hypotheses are formulated:

H5a: Perceived security protection is positively related to institutional trust.

H5b: Perceived security protection is positively related to interpersonal trust.

#### **Online Shopping Experience**

Online shopping experience means consumers' past experience of online shopping, which reflects both their familiarity with the Internet shopping environment and the e-vendor. It also reflects the consumers' knowledge of the e-vendor and the understanding of its relevant procedures such as searching for products and information and ordering through the website's purchasing interface and familiarity of the online shopping environment (Kim et al. 2008). Since consumers will only return to websites where they have had a favourable experience, but will not return to websites where they have had a negative experience, consumers' past shopping experience with the e-vendor is important in forming interpersonal trust. Consequently, if a

consumer is familiar with the e-vendor, he or she is more likely to expect the vendor to honour their obligation, and believe the e-vendor is competent and integrate. Therefore this e-vendor will be judged relatively more trustworthy than others.

H6a: Previous online shopping experience will be positively related to interpersonal trust.

If the consumers have had online shopping experience, it is easy to reduce uncertainty and complexity through understanding of how to search and purchase items through the site and what the transaction procedure involved; they are all based on previous interactions and experiences (Gefen 2000). Also if the consumers have favourable online shopping experience, their familiarity with the Internet will carry considerable weight when consumers make judgments about the online shopping medium. This experience carries more significance than any assumptions an individual could make about a situation without experiencing it personally beforehand (McKnight et al. 1998). If an individual is familiar with the Internet and has used it on a regular basis, he or she is likely to hold a higher level of institutional trust than a person who has never used the Internet before. From the above discussion, it is hypothesised that:

H6b: Previous online shopping experience will be positively related to institutional trust.

As McKnight and Chervany (2002) mention, people may grow up with a disposition to trust or may develop it later in life. Either way, it is acted out as a generalised reaction to life's experiences with other people (McKnight and Chervany 2002). Thus, the individual's online shopping experience may have impacts on dispositional trust. If the individual has shopped online before and remembered a favourable experience, it may lead to a higher level of dispositional trust.

H6c: Previous online shopping experience will be positively related to dispositional trust.

#### Third-Party Evaluation

The third-party evaluation means the assessment of the third-party seals of the store's website. The third-party seals refer to an assurance of an Internet vendor provided by a third-party certifying body such as a bank, consumer union, or computer company (Kim et al. 2008). In the online environment, the transactions often happen between two parties which are unfamiliar to each other, thus the third party is of special importance (Salo and Karjaluoto 2007). The third party seals help to diminish some of the uncertainties that arise when consumers conduct businesses with an unfamiliar e-vendor (Salo and Karjaluoto 2007). The Web Trust mark on websites encourages buyers to believe that the owners have agreed to disclose their information gathering and dissemination practices, and that their disclosure is backed by credible third-party assurance (Sivasailam et al. 2003). Generally, people are more likely to trust an e-vendor and the online environment when they are proposed with a certified third party. Thus, the following hypotheses are proposed:

H7a: The presence of a third party will be positively related to institutional trust.

H7b: The presence of a third party will be positively related to interpersonal trust.

#### Information Quality

Information quality refers to a consumer's general perception of the accuracy and completeness of the information on the website as it relates to products details and transactions procedure (Kim et al. 2008). A website may provide diverse information such as product details, price, delivery information, return policy and conditions. Such information may reveal the trustworthiness of the e-vendor to customers (Kim et al. 2004). If the consumers perceive that a website presents accurate information, they are more likely to have confidence that the vendor is reliable, and therefore will perceive the selling entity as trustworthy. There are some empirical studies identifying that there is a positive relationship between information quality of the website and interpersonal trust (Kim et al. 2008; Kim et al. 2004). Thus, the following hypothesis is proposed:

H8: The information quality on the website will be positively related to interpersonal trust.

#### Online Store Reputation

Firm reputation is the consumers' belief that a company is honest and concerned about its customers (Doney and Cannon 1997; Jarvenpaa et al. 2000). It encompasses the competence and integrity of the e-vendor (Doney and Cannon 1997). The reputation of the online store has been considered a key factor for creating trust because it provides information that the selling party has met its obligations toward other consumers in the past (Doney and Cannon 1997). Customers are more likely to trust a retailer with good reputation rather than a retailer with poor or no reputation (Jin et al. 2008). In the traditional marketing literature, reputation has been shown to be positively related to the buyers' trust in the seller (Ganesan 1994). In Internet shopping, perceived reputation of the online store has also been revealed to be significantly related to consumers' trust

in the e-vendor (Jarvenpaa et al. 2000; Jin et al. 2008; Kim et al. 2008; McKnight and Chervany 2001). Ruyter et al (2001) call for further research in the firm’s reputation as they determine it is more critical in building e-trust than other relative advantages. Then, we propose the following hypothesis:

H9: The online store’s reputation will be positively related to interpersonal trust.

### Research Framework

Figure 1 presents our research framework. Three dimensions of trust emerge in this model: institutional trust, dispositional trust, and interpersonal trust. Three variables: the switching costs, perceived service quality, and online shopping experience, are controlled in this study for their possible impacts on e-loyalty as well, which will be elaborated below.

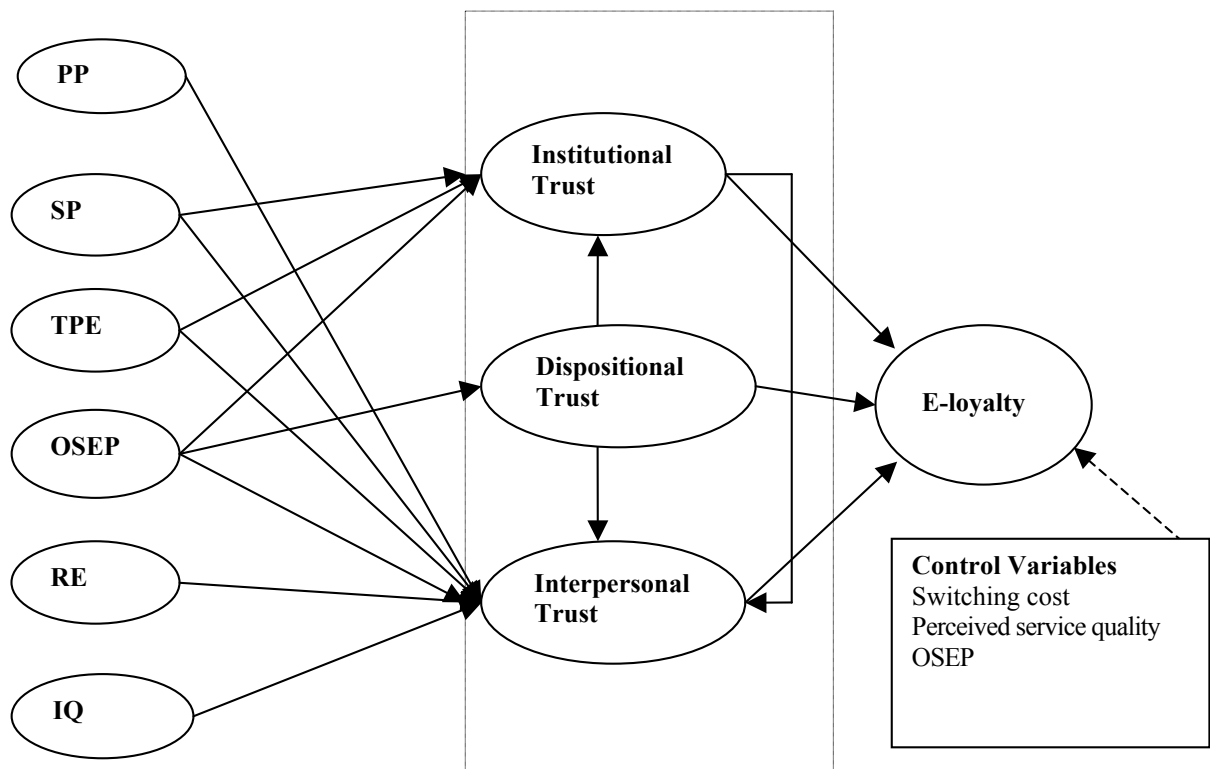


Figure 1: Research Framework

PP: Privacy Protection; SP: Security Protection; TPE: Third Party Evaluation  
OSEP: Online Shopping Experience; RE: Online Store’s Reputation; IQ: Information Quality

### Control Variables

#### Switching Costs

Poter (1980) defines switching costs as the costs associated with switching from one supplier’s product or service to another supplier’s product or service. Similarly, Burnham, et al (2003) define switching costs as the onetime costs that customers associate with the process of switching from one provider to another. For instance, when online customers switch to other providers, they have to invest time and effort in learning about a new interface and how to use new features. They must also allocate irrecoverable resources to develop a relationship with a new e-vendor to get a discount (Tsai and Huang 2007). Several conceptual and empirical studies have proposed switching barriers as a key determinant of repurchase intentions (Balabanis et al. 2005; Tsai and Huang 2007). Furthermore, a study by Jones et al (2000) provides the empirical support for the viewpoint that consumers who feel “locked in” are more likely to remain with a provider. Therefore, the switching cost variable is included in the analysis to control for its possible effect on customer loyalty behaviour.

#### Perceived Service Quality

In the online environment, customers can also experience the service provided by the e-vendor, from which they can infer its quality (Kim et al. 2004). In the traditional marketing, service quality plays an important



role in retaining customers. In the context of e-commerce, customers' perceived service quality also has been argued as an antecedent of e-loyalty (Singh et al. 2007; Tsai and Huang 2007; Yang 2006). Mohanty et al (2007) argue that a high level service quality is more important than only changing the price or altering the inventory of goods in retaining customers. Since perceived service quality has an impact on e-loyalty, it is then included in the analysis to control its possible effect on e-loyalty.

#### Online Shopping Experience

Reicheld (1996) proposes that a customer who has a favourable prior experience with a service provider will likely to be loyal to that service provider. This effect will be higher in the Internet environment because it is easier and less costly to change the service provider online than offline (Shankar et al. 2003). Shankar et al (2003) compare the factors affecting loyalty and satisfaction both online and offline. Prior experience has been shown to have significant impacts on loyalty in both the online and offline environment. Therefore, the online shopping experience is also included as the control variable.

## RESEARCH DESIGN

### Research Methodology

To empirically test the hypotheses, this study uses a quantitative research approach. Online survey is considered as the method of collecting data because the sample should be selected from Internet users. Online surveys are increasingly being used by researchers of e-commerce and have been found to have several advantages over traditional paper-based surveys (Sheehan and hoy 1999): (1) the sample is not restricted to a geographical location; hence, large samples are possible; (2) lower costs; and (3) the survey is implemented to require mandatory response for every item, preventing uncompleted answerers from being submitted.

### Sampling Plan and Data Collection

The participants of this study are people who have online shopping experience in China. The empirical data will be collected from people shopping in the large and famous Internet shopping mall-- Taobao in China. To solicit a pool of respondents who would be as close to the population of Internet shoppers as possible, we will prepare an announcement that requests the consumers' participation and include the URL for the web survey through the public online discussion board of Taobao. Taobao is selected for the following reasons: according to the investigation taken by CNNIC (China Internet Network Information Centre) in 2008 (CNNIC, 2008), about 89.5% of the online shoppers know the Internet shopping mall of Taobao in China; the report also reveals that there are 46.41 million online shoppers in China, and approximately 10% of online shoppers make comments on the online discussion boards of the Internet shopping malls.

### Questionnaire Development

A questionnaire is developed to measure consumer perceptions of the research constructs using a selected website with which they are familiar with. For each item of each construct, seven-point scales will be used. The scale is rated in the order: strongly disagree (1) to strongly agree (7). To measure the various constructs, validated items used by other researchers are adapted.

## CONCLUSION

This study has implications for Information Systems (IS) and e-commerce research and practice.

The study has implications for the emerging role of the IS discipline in explaining online consumer behaviour. While traditional consumer behaviour is well described by marketing and economic theories, a growing body of evidence suggests that Internet related issues have become as important as traditional factors in explaining consumer behaviour on the Internet (Gefen et al. 2003; Jarvenpaa et al. 2000; Pavlou 2003). Rather than viewing e-commerce as a marketing issue influenced by IT use, it is perhaps more accurate to view e-commerce as an IS phenomenon where IT user interacts with complex IT systems which include not only websites, but also the supporting services and the organisations providing those services (Pavlou and Fygenson 2006). Most existing literature focuses on interpersonal trust, which is impacted more by marketing related factors. This study incorporates institutional trust to explain consumers' loyalty behaviour as online consumers are intrinsically active users of IT.

Trust has become important with the widespread use of the Internet, particularly with the advent of business transactions on-line. In the case of e-commerce, trust is even more emphasised due to the emergence of the channel and the lack of face-to-face interaction between consumers and e-vendors. This research proposal has reviewed the nature of consumer trust in Internet shopping and developed a research model for studying it.



The model presents the major relationships between different types of consumer trust and e-loyalty in e-commerce. A set of factors which may have impacts on different dimensions of trust are included. The model clearly distinguishes between trust itself and trust antecedents: an issue that has been raised by many researchers. Thus, this study has the potential to clarify and enrich the relevant theories in e-commerce and fill the gaps that exist in the prior literature.

Our study also offers an important practical contribution toward the propagation of e-commerce by providing guidelines on how Internet vendors should address their trust problems differently so as to retain consumers. Finally, we expect that the outcomes of this research may provide e-vendors with some suggestion on how to succeed in the Internet environment by providing guidelines on how to increase consumer trust and thus improve the chances of consumers purchasing from them. Once the relative importance of the various trust antecedents is known, management can focus on those that are most important.

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