# Do I Trust You Online, and If So, Will I Buy? An Empirical Study of Two Trust-Building Strategies

KAI H. LIM, CHOON LING SIA, MATTHEW K.O. LEE, AND
IZAK BENBASAT

KAI H. LIM is an Associate Professor of Information Systems at City University of
Hong Kong. He received his Ph.D. from the University of British Columbia, Canada.
Prior to joining City University, he was on the faculty of Case Western Reserve University and the University of Hawaii. His research interests include e-commerce–related
adoption issues, human–computer interactions, and cross-cultural issues related to information systems management. Dr. Lim has engaged in executive training in Hong
Kong, Shanghai, and Beijing. He has won numerous teaching awards and is one of the
top-ranking teachers teaching in the City University's Executive Master of Business
Administration (EMBA) programs. His work has appeared in some of the most prestigious IS journals, including *Information Systems Research, Journal of Management
Information Systems,* and *MIS Quarterly.* He is serving or has served on the editorial
board of *MIS Quarterly* and *Journal of the Association for Information Systems.*

CHOON LING SIA is an Associate Professor of Information Systems at City University
of Hong Kong. He is currently on the editorial board of *MIS Quarterly, Information
and Management,* and *Journal of Database Management.* His research interests include Internet commerce, distributed work arrangements, virtual organizations, innovation adoption, and knowledge management. He has published in *Information Systems
Research, ACM Transactions on Computer–Human Interaction, Journal of the American Society for Information Science and Technology, IEEE Transactions on Engineering Management,* and *IEEE Transactions on Cybernetics,* among others.

MATTHEW K.O. LEE is a Professor of Information Systems and Associate Dean of the
Business School at the City University of Hong Kong. He holds a Ph.D. from the
University of Manchester, UK, and is professionally qualified as a barrister-at-law
and a Chartered Information Systems Engineer. Dr. Lee is interested in the management of IT adoption and diffusion, electronic commerce, knowledge management,
and the legal, ethical, and policy aspects of IT. He is an Associate Editor of *Electronic
Commerce Research and Applications.* He has published in the *Communications of
the ACM, Journal of Management Information Systems, International Journal of Electronic Commerce, Information & Management, Journal of International Business
Studies,* and *Journal of the American Society for Information Science and Technology,* among others.

IZAK BENBASAT is a Fellow, Royal Society of Canada, is CANADA Research Chair
in Information Technology Management at the Sauder School of Business, University of British Columbia, Canada. He received his Ph.D. in Management Information

Systems from the University of Minnesota. Dr. Benbasat is the past editor-in-chief of *Information Systems Research* and currently a Senior Editor of the *Journal of the Association for Information Systems.* He is a Fellow of the Association for Information Systems. His current research interests include designing and evaluating human–computer interfaces for e-business.

ABSTRACT: This research investigates the effectiveness of various trust-building strategies to influence actual buying behavior in online shopping environments, particularly for first-time visitors to an Internet store that does not have an established reputation. Drawing from the literature on trust, we developed a model of how trust-building strategies could affect trust and the consequences of trust. We investigated two trust-building strategies: portal association (based on reputation categorization and trust transference) and satisfied customer endorsements (based on unit grouping, reputation categorization, and trust transference).

   A series of two studies was conducted at a large public university in Hong Kong. The first study employed a laboratory experiment to test the model in an online book-store environment, using a real task that involves actual book purchases. Of the two strategies investigated, satisfied customer endorsement by similar peers, but not por-tal association, was found to increase consumers' trusting beliefs about the store. This, in turn, positively influenced consumers' attitudes toward the store and their willingness to buy from the store, which ultimately led to actual buying behaviors. To gather further insights on the two Web strategies investigated, a second study was conducted using a questionnaire survey approach. Overall, the findings corroborated those in the first study. Specifically, it shows that endorsements by similar (local, nonforeign) peers, but not by dissimilar (foreign) peers, were effective means of developing trust among first-time visitors to online stores.

KEY WORDS AND PHRASES: e-commerce, online shopping, theory of planned behavior, trust, Web site design.

DESPITE THE PHENOMENAL GROWTH OF THE INTERNET over the past few years, the vast potential of conducting business over the Internet remains largely untapped. For example, according to the U.S. Census Bureau [29], online retail sales as of the second quarter of 2004 accounted for only 1.7 percent of the total retail sales in the United States. Therefore, there is still much room for online retailers to grow. Keen [38] argued that the most significant long-term barrier to realizing the potential of the digital economy is the lack of consumer trust in both the seller's integrity and competence to fulfill sales. Although trust has been extensively examined within the context of the traditional economy [12, 16, 18, 26, 27, 46, 56], it was only recently that the concept has caught the attention of scholars investigating the digital economy [13, 19, 28, 36, 40, 45, 54, 57, 64, 68, 69]. Developing trust in online shopping environments is especially challenging, because of the lack of direct contacts with the physical stores, salespeople, and physical products in the digital world. This is particularly true for *first-time visitors* to an unknown store that does not have an established name or reputation.

Practitioners have proposed various Web strategies for developing trust in relatively unknown Internet stores [14]. However, the mechanisms by which trust is built through these Web strategies, and their relative effectiveness, are still not well understood. Knowledge of the relative usefulness of these Web strategies in building online trust and encouraging Internet shopping behavior could lead to a better theoretical understanding of trust building in an Internet environment. It could also permit the development of more effective practical guidelines on the design of Web strategies. Therefore, the objectives of the study are:

1.  to understand the relative merits of two trust-building strategies[1] (namely, endorsement by satisfied customers and affiliations with a well-known portal) from a theoretical perspective; and
2.  to investigate whether trust affects people's willingness to buy online, and whether this intention ultimately leads to actual online buying behavior.

Regarding the second objective, we believe that the relationship between buying intention and actual buying behavior is neither trivial nor evident, especially in the online shopping context. Market research firms have reported that many people abandon their shopping carts when they reach the checkout process (see, e.g., [20]). This suggests that, in the online context, intention to buy might not necessarily lead to buying.

Drawing from the theoretical and empirical literature on trust, we developed a model for trust: how trust can be affected by Web site strategies, how trust changes one's attitude toward a store, and ultimately how one's actual buying behavior is affected. The model and its predictions were tested through a laboratory experiment in an online bookstore environment involving a real purchasing task. To gather further insights on the two Web strategies, a questionnaire-based study was also conducted.

## Development of Research Model

THIS STUDY AIMS TO VALIDATE A THEORY-BASED MODEL for trust in an Internet store and tests two specific trust-building strategies. The research model, depicted in Figure 1, hypothesizes that both portal affiliation and satisfied customer endorsement positively affect customer's trusting beliefs. Trusting beliefs, in turn, lead to positive attitudes toward the store, an increase in willingness to buy, and ultimately an increase in actual buying behavior from that store. Before proceeding with the development of specific hypotheses relating to the research model, literature on the central concept of trust is first reviewed.

### Trust

Trust is critical to the study of online business [33, 55] because it has a significant effect on consumer behavior [59]. Adapting the definition of trust from Mayer et al. [48] to the context of Internet shopping, we define trust as the belief that an Internet
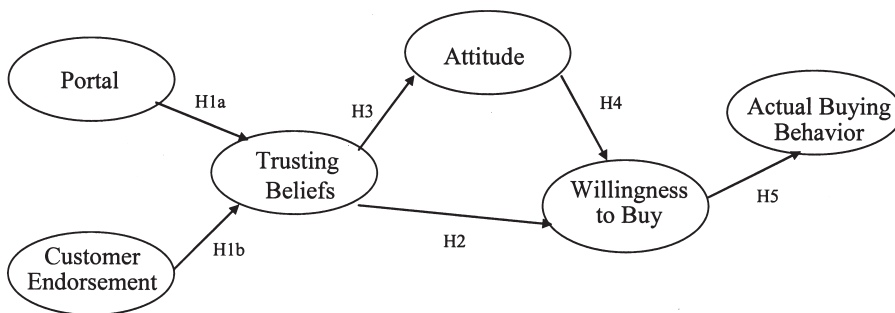
*Figure 1.* The Research Model

shopper has in an Internet merchant and is willing to engage in an Internet shopping transaction, even with the possibility of loss, based on the expectation that the merchant will engage in generally acceptable practices, and will be able to deliver the promised products or services. Following McKnight et al. [50], we break this high-level trust concept into two constructs—trusting beliefs and trusting intention. The concept of trusting beliefs means that a potential online shopper believes that the online store is benevolent, competent, honest, or predictable [48, 50]. Trusting intention means that a potential online shopper is willing to expose him- or herself to the possibility of loss and transact with the online store—that is, willing to purchase from the store [50].

Because the focus of this study is on investigating trust-building strategies for first-time visitors to an online store that has no established reputation, the literature on *initial trust* is key to our discussion. Integrating the research in trust building, McKnight et al. [50] theorized that initial trust is affected by three factors—individual disposition to trust, institution-based trust, and cognitive-based trust. Individual disposition to trust is a personality characteristic that develops during childhood [10, 21]. Individual disposition to trust can be an important factor affecting trusting behavior [48] and is the focus of another study [42].

Institution-based trust is the security that one feels about a situation because of guarantees, safety nets, or other regulatory or legal structures [60, 71]. Cognitive-based trust is developed based on rapid, cognitive cues or first impressions [11, 43, 52]. In the online context, cognitive-based trust can be affected by the interface design of the Web site. This is because first-time visitors to an online store largely form their first impression of the store from the interface that they see. This study focuses on the strategies that could be employed during Web site design to affect the formation of cognitive-based trust. McKnight et al. [50] discussed how the two processes of *unit grouping* and *reputation categorization* could build cognitive-based trust.

## Hypotheses Development

The research model proposed in this study (see Figure 1) is partly based on the initial trust literature and on the models proposed in Jarvenpaa et al. [36]. Jarvenpaa et al.'s

[36] model suggests that perceived size and reputation of an online store directly affect potential shoppers' trust in the store. This trust, in turn, affects the shoppers' attitude toward the store. Finally, the attitude affects their willingness to buy from the store. Jarvenpaa et al.'s [36] model was supported by the data collected using existing Web sites such as Amazon.com and Travelweb (www.travelweb.com).

In this study, our focus is on examining strategies for newly started online stores, which tend not to have established reputation and are smaller in size. We believe that small size is an inherent disadvantage of most newly started online stores. However, as will be explained below, we argue, based on the trust literature, that newly started online stores could enhance consumer trust by using third parties to boost their reputation. This study will examine two specific ways to boost reputation, and thus consumer trust, using third parties.

### Initial Trust-Building Process

Our model includes two commonly used online trust-building strategies, *portal affiliation* and *customer endorsement*. Portal affiliation, or portal association, involves the display of an association with a well-known independent third-party portal on the Web site of a lesser-known store. Customer endorsement involves displaying positive testimonials from one or more satisfied customers on the Web site of a store.

*Portal Affiliation.* Portal affiliation is one strategy popular with practitioners to increase trusting beliefs in online stores based on the idea of trust transference [14]. For example, a newly established online store can be affiliated with a well-known portal, such as Yahoo, through showing the logo of the portal prominently, with a clickable link, on the online store's Web page. Stewart [63] provided theory-based explanation for the effect of portal affiliation. Stewart theorized that trust can be transferred from a trusted entity to another unknown target if the unknown target is perceived to be related to the trusted source. Specifically, she argued that the greater the *perceived relatedness* or *perceived tie* between an unknown target and a trusted target, the higher the initial trusting beliefs about the unknown target. She manipulated the number of links from a trusted Web site to an unknown online retailer to create different perceptions of ties between the trusted target and the unknown online store and found empirical supports for her theory. Note that the practical implementation of portal affiliation strategy essentially entails creating links from an unknown online store to a trusted portal (in our case, Yahoo). Therefore, affiliating with a portal signals to potential customers that the online store is tied to the trusted portal. Consequently, trust is being transferred to the online store. In short, Stewart [63] provided both theoretical explanation and empirical supports for the effect of portal affiliation.

McKnight et al. [50] provided additional theory-based support for the effect of portal affiliation. McKnight et al. postulated that reputation categorization is one process by which people build cognitive-based trust. They suggested that reputation directly affects one's trusting beliefs. In the online world, reputation can either be achieved online (e.g., Amazon.com) or offline (e.g., Barnes & Noble). A good reputation has

the advantage of being perceived as having a high level of ability to deliver products or services at the promised terms. An established reputation also conveys a message of high integrity in that the company would stand behind its products or services in case of problems. Therefore, reputation directly affects a consumer's perceptions of ability and integrity, which, in turn, will affect the potential shopper's trusting beliefs of a company [48, 50].

For relatively new online stores that do not have established brand names (as was the case with the online bookstore in this study), reputation categorization could also be achieved through the use of surrogates to confer reputation on these stores, because trust is transferable [62, 63, 65]. Trust transference occurs when the trust that a person has in a known entity is shifted to another relatively unknown entity by virtue of their association with one another. The theoretical basis for trust transference is derived from attribution theory [39], which postulates that an event will be attributed to a case that is present when the event is present and absent when the event is not observed. That is, in the absence of an established reputation, a new store can gain trust by linking the store with established, credible third parties.

Figure 2 summarizes the process by which trust can be developed through portal affiliation. In short, based on reputation categorization, a potential customer will form higher trusting beliefs for an online store with good reputation than one that does not have an established reputation. In the absence of an established reputation, a new online store could leverage the reputation of established third-party portals. Because trust is transferable, if the store is affiliated with a trusted third-party portal, the trust in the portal is transferred to the online store. Therefore,

> *Hypothesis 1a: Affiliation with a well-known portal will improve potential customers' trusting beliefs of an unfamiliar online store.*

*Satisfied Customers' Endorsements.* In the online shopping context, Cheskin Research and Studio Archetype/Sapient [14] suggested that satisfied customer endorsements could be a means to enhance customers' trusting beliefs. This strategy is usually implemented by displaying positive testimonials from one or more satisfied customers on the Web page.

The theory-based support for the effectiveness of customer endorsement is provided by two of the cognitive-based trust development processes—reputation categorization and unit grouping—put forth by McKnight et al. [50]. First, Ba and Pavlou [6] suggested that peer ratings, which are similar to customer endorsement, build trust because they establish a reputation. Following the same logic, customer endorsements can directly affect an unknown store's reputation.[2]

Second, cognitive-based trust is also influenced by the bias toward the unit group. McKnight et al. [50] argued that people who share common characteristics tend to perceive each other in a positive light and, hence, are more likely to trust each other [41, 72]. For example, in his survey of MBA students, Kramer [41] found that despite having no interaction history, they had high levels of trust among one another. Such bias is also used commonly by traditional marketers to boost credibility by leveraging the influence of peer groups [8].
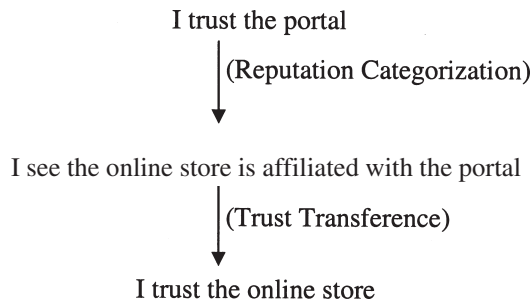
I trust the portal

(Reputation Categorization)

I see the online store is affiliated with the portal

(Trust Transference)

I trust the online store

*Figure 2.* The Trust-Building Process Through Portal Affiliation

It has also long been recognized that group membership is a determinant of behavior because people act in accordance with the norms of groups to which they belong. Several theories (e.g., theory of reasoned action; TRA) [23] have suggested that subjective norms, such as social influence or word-of-mouth recommendations from peers, are influential means of affecting one's attitude and behavior. Consequently, marketers often use peer groups as a way to affect potential consumers' attitude and behavior (e.g., advertisements on cigarette smoking targeting teenagers often use teenage celebrities).

Figure 3 summarizes the process by which trusting beliefs may be developed through satisfied customer endorsements. The assumption is that potential shoppers trust those customers who are similar to them. When potential shoppers see that these customers trusted the online store in question, they transfer their trust of the satisfied customers to the online store. Therefore:

> *Hypothesis 1b: Endorsements of satisfied customers who are similar to potential customers will improve the potential customers' trusting beliefs of an unfamiliar online store.*

While both portal affiliation and customer endorsements work through a common trust transference process, they may differ in the relative effectiveness of the proof source of trust used. Specifically, there are strong reasons to believe that using customers who are similar to the potential buyers as a proof source of trust could be highly effective. First, as mentioned, there are strong theoretical reasons and ample empirical evidence suggesting that people who share common characteristics tend to perceive each other in a positive light and hence are more likely to trust each other [41, 72]. Second, as also stated above, it has long been recognized that people act in accordance with the norms of groups to which they belong [23].

On the other hand, although it makes sense intuitively that third-party portals could be used as a proof source of trust, there is a lack of empirical evidence supporting its effectiveness. Further, customer endorsements provide more direct information about an unfamiliar online store than portal affiliation does, because endorsement messages typically mention specific events or experiences that the customers had with the store. These direct, firsthand experiences or events provide specific information for poten-
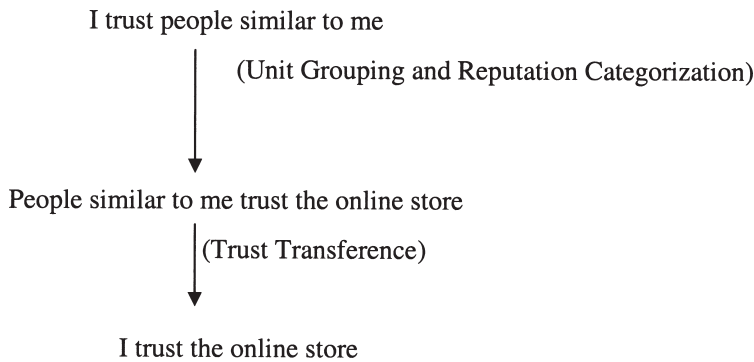
I trust people similar to me

(Unit Grouping and Reputation Categorization)

People similar to me trust the online store

(Trust Transference)

I trust the online store

*Figure 3.* The Trust-Building Process Through Satisfied Customer Endorsements

tial customers to form an impression about the store. In contrast, a portal affiliation only says that the store is associated with a larger or reputable entity. It does not provide any specific information about the store. Therefore, it may not be as easy for potential customers to form favorable impression, not to mention trust, toward the store.[3]

Stewart [63] also provided specific guidance for predicting the relative effectiveness of the two strategies. Recall that Stewart postulated that the degree of the perceived tie between a trusted entity and an unknown target affects the strength of the initial trusting beliefs of the unknown entity. That is, the stronger the perceived tie, the higher the trusting beliefs. In the case of portal affiliation, the relationship between the unknown online store and the trusted portal (in our case, Yahoo) is shown as a hyperlink stating that the online store is affiliated with Yahoo. Furthermore, the business nature of Yahoo is different from the business nature of the online store in our study (selling books). Therefore, the perceived tie or relatedness between Yahoo and our online bookstore might not be very strong. On the other hand, for the customer endorsements strategy, the endorsers are peers who look similar to potential customers. As argued, people who share common characteristics tend to perceive each other in a positive light and are more likely to trust each other. Therefore, potential customers should have high trusting beliefs of these peer endorsers. Further, the positive endorsement messages given by each of the endorsers provide cues for strong ties between the endorsers and the online store. Taken together, Stewart's theory would predict that positive endorsements from a group of customers who are similar to the potential buyers may be more effective than affiliation with a third-party portal when used as a proof source of trust. Therefore,

> *Hypothesis 1c: Satisfied customer endorsements will be more effective than portal affiliation in improving potential customers' trusting beliefs of an unfamiliar online store.*

Consistent with McKnight et al. [51], we define trusting intention as the willingness of a potential online shopper to expose him- or herself to the possibility of loss

and transact with the online store. McKnight et al. [51] further proposed three specific ways to measure trusting intention—willingness to provide personal information, willingness to engage in a purchase (i.e., willingness to buy), or willingness to act on vendor information (e.g., financial advice). Similar to Stewart [63], in our study context, the trusting intention of interest is willingness to buy.

McKnight et al.'s [50] model suggests that trusting beliefs directly affect trusting intentions. They cite the TRA [23], which links beliefs to intention to support the relationship. Luhmann [46] also suggests that trust in an entity would not only affect people's beliefs about that entity, but also their willingness to take action. This effect should also apply to Internet shopping. The higher the customers' trusting beliefs of an online store, the more likely they are to be willing to consider buying from that store. Jarvenpaa et al. [36] also found that trust in online stores could directly affect customers' willingness to buy. Therefore,

> Hypothesis 2: Potential customers' trusting beliefs of a store will positively affect their willingness to buy from the store.

Note that McKnight et al.'s model [50] does not include any attitudinal construct. As mentioned in their paper, their model focuses on the cognitive processes of trust building. Therefore, it is understandable that attitudinal factors are ignored for simplicity. However, based on TRA [23], beliefs directly affect attitude. In the context of our study, TRA suggests that customers' trusting beliefs in an online store affect their attitudes toward that store. Studies of physical stores have found that trust in a store may indeed result in a shopper's favorable attitude toward that store [5, 47, 60]. In the online context, Jarvenpaa et al. [36] also demonstrated, through their empirical study, that trust could influence one's attitudes toward shopping at an online store. Therefore,

> Hypothesis 3: Potential customers' trusting beliefs of the store will positively affect their attitudes toward the store.

According to TRA [23], favorable attitudes toward an act or event would lead to a positive intention to perform the act or adopt the event. This relationship has been widely documented in a variety of situations [15]. In the online context, Jarvenpaa et al. [36] found that a favorable attitude toward shopping at an Internet store led to a greater willingness to buy from that store. Therefore,

> Hypothesis 4: Potential customers' attitudes toward the store will positively affect their willingness to buy from the store.

TRA [23] posits that intention (willingness to buy) should directly relate to actual observable behavior (actual buying behavior). This link between intention and actual behavior has been empirically established in a wide variety of planned behaviors, including information technology usage and adoption. For instance, Harrison et al. [32] and Taylor and Todd [67] independently found that greater intentions to use and adopt information technology led to more actual usage and adoption behaviors, respectively. Because the TRA is a generic theory of planned actions, this link should also apply to online shopping behavior. Therefore,

*Hypothesis 6: Willingness to buy from the online store will positively affect actual buying from that store.*

## Study 1: The Laboratory Experiment

### Method

THE RESEARCH MODEL (SEE FIGURE 1) WAS FIRST TESTED using a laboratory experiment. During the experiment, student subjects worked on a realistic task involving actual purchasing activities that they had to undertake as part of their academic life—buy textbooks. College students not only represent consumers of textbooks but are also a major group of Internet shoppers. Around the time that the data for this study were collected, research (e.g., [58, 66]) has found, the most dominant group of cyber shoppers were between the ages of 18 and 34 and had attended at least one year of college. More recent studies also show that younger people continue to be the dominant Internet users (e.g., [49]). Therefore, we believe the behaviors of our subjects mirrored those of many actual online consumers. To control for potential confounding factors, such as connection speed and interruptions when working at home or dormitory, we chose to conduct the experiment in a controlled laboratory setting.

### Experimental Task

Subjects were asked to decide on whether or not they would make online purchases of the textbooks required for a course that they were currently attending. The subjects were second-year students. They were told that a relatively new online bookstore, called iBook, was inviting university students to evaluate the current version of its Web site to find out how likely they were to buy books from the site. In this special evaluation session, participants could buy one book from iBook at a discounted price.

Subjects had to make an actual purchase decision after they had browsed through the Web site of iBook. They had several alternative means of obtaining their textbooks if they decided not to purchase from iBook, for instance, from the university bookstore or used copies from students who had previously taken the course.

The experimental sessions were conducted during the first day of class for the first week of the semester. The common practice among students in this university was not to purchase textbooks until after the module drop–add period, which was the first week of the semester. Therefore, most students should not have purchased a copy of the book prior to the experiment. One of our postexperiment debriefing questions asked the subjects why they chose to buy or not buy from the online store; none indicated that he or she had already purchased a copy of the textbook.

From the perspective of the subjects, there were several advantages to purchasing from iBook:

- receiving an additional 5 percent discount over what they would have received from the university bookstore,

- the convenience of having the textbooks delivered to their classroom, and
- entry into a lucky draw.

It is common knowledge among the students that the university bookstore, which was operated by one of the largest book wholesalers/retailers in town, offered the cheapest price for textbooks. Therefore, the students were aware that the additional 5 percent discount offered by iBook was attractive.

Nevertheless, the online purchase involved a certain amount of risk to the subjects in that the bookstore might renege on its promise to deliver the textbooks and the subjects had to reveal their personal information, including their bank account numbers. Therefore, in terms of realism, the task was designed to mirror a real-world online shopping experience involving a certain amount of risk on the part of the purchasers, who have to use their own money to make actual purchasing decisions.

## Subjects

One hundred and thirty-three subjects were recruited from the undergraduate student population of a large public university. To encourage participation, students were given a cash reward equivalent to one hour of standard student assistant's pay for approximately an hour of their participation, plus the added benefits of buying from iBook as described above. As mentioned, the experimental sessions were conducted during the first day of class. Prior arrangements were made with individual course instructors to allow the experimental administrators to take over the class once the required teaching agenda was completed. Upon entering the room, the experimental administrators explained the study and the incentive involved. Those who were not interested in participating were allowed to leave. Among all the sessions conducted, only two students chose not to participate and left the room.

## Design

A 2 (portal affiliation: with versus without) × 2 (satisfied customer endorsements: with versus without) factorial design was used to test the research model.

### Independent Variables

*Affiliation with a Portal.* The Web page versions that had an affiliation with a portal bore Yahoo's logo. A line of text would appear under the logo stating that the store was affiliated with Yahoo (see Figure 4). The Web page versions without the affiliation did not bear such a logo and text. Although there are many portals on the Internet, Yahoo was selected for several reasons. First, it is one of the most visible and highly regarded Internet logos, which makes it a good representative of such portals. Second, millions of people worldwide, including students from the university that participated in this study, use Yahoo daily to seek information or engage in other online activities. Therefore, most people are familiar with this company and presumably may trust it more
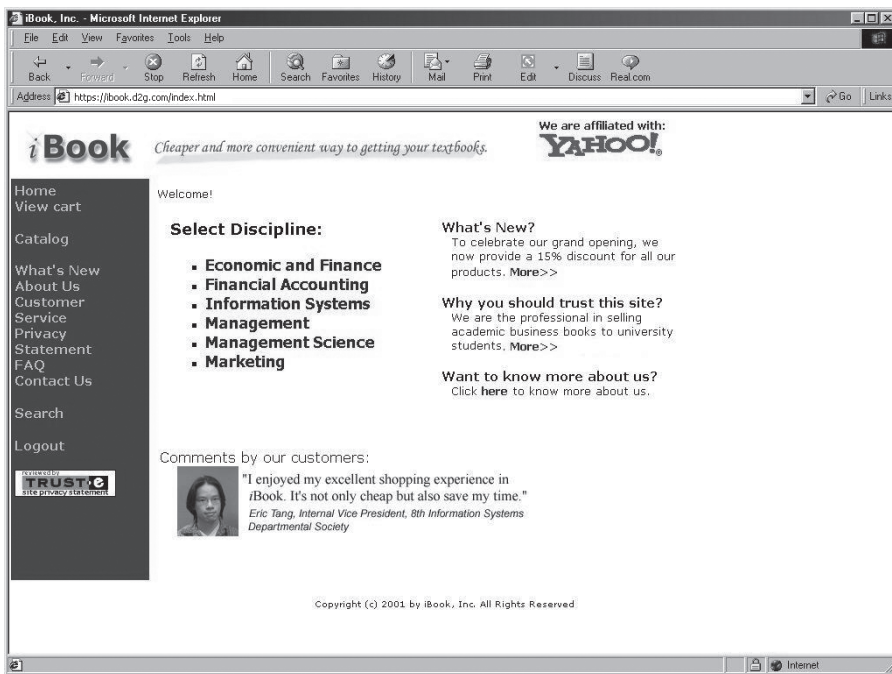
Figure 4. An Example of the Online Bookstore Home Page Used

than an unknown company such as iBook. Third, and most important, it is one of the most popular portals that Web sites are affiliated with [14].

*Endorsement from Satisfied Customers.* The Web page versions that had this endorsement repeatedly cycled through a display of the pictures of four customers (student peers) with a short quote from each of them stating his or her successful and happy shopping experience with the store. Although the endorsers and the subjects were from the same large public university, they were not from the same cohort as the subjects. Therefore, although it is possible that some of the subjects recognized the faces of some of the endorsers, it is unlikely that the subjects knew all the endorsers personally.

The list of these quotes is included in Table 1. At any one time, only one of the four pictures and the associated quote was displayed. Each picture and quote was displayed on the screen for eight seconds, and then a new picture and quote appeared.

Figure 4 shows the screen shot of the condition with both portal affiliation and satisfied customer endorsement.

Controlled Variables

Security seals of approval and conveyance of privacy may be two necessary, but not sufficient, conditions to build online trust. Customers will not buy from a site that

Table 1. List of the Quotes Used for Customer Endorsements

I enjoyed my excellent shopping experience at iBook. It's not only cheap but also saved my time. (Eric T., Internal Vice President, Eighth Information Systems Departmental Society and current student)

I'm impressed by the customer services. Once I had some problems with my order. The friendly staff helped me to fix the problem, and I got the book next day. (Mike C., graduate student)

In the past, I never shopped in the Internet because of the security problem. But this site is secure. I feel comfortable with its security level. Now I just visit iBook. (Rachael I., instructor and former student)

It is very convenient and fast to get the books I want here. They even deliver books to classrooms. So, this online bookstore saves me a lot of time. (Karen L., current student)

does not have some minimum level of security [2], especially if they must provide personal information. Similarly, although consumers may not mind the collection and use of their personal data, they would like to know how the data would be used [30]. Thus, in the experiment, security seals of approval and conveyance of privacy policy were controlled variables. Specifically, Web pages across all experimental conditions employed the same level of security (128-bit encryption) and displayed the same privacy seals of approval (TRUSTe) and privacy statement.

We also controlled for technology, presentation,[4] and navigation. Thus, all versions of the store Web page projected the same level of technology and used the same presentation and navigation methods.

In short, we view security encryption, seals of approval, and a privacy statement as the "minimum baseline" conditions to make a site seem normal, safe, and trustworthy to use. The two treatments, portal affiliation and customer endorsements, tested in our study are two incremental trust-building effects on top of the "minimum baseline."

### Dependent Variables

Table 2 summarizes the dependent variables used in this study and the sources of their measures. Most of the items used to measure these dependent variables were adapted from the literature to ensure content validity. All items are reflective indicators of the respective underlying constructs. They are measured on a seven-point Likert scale, except for the actual buying behavior, which is coded in binary format (1 for yes and 0 for no).

## Experimental Procedures

All experimental sessions were conducted in the same computer laboratory. Six sessions, each with 20 to 30 subjects, were conducted. Each session consisted of three phases.

Table 2. Dependent Variables

| Constructs | Description | Sources |
|---|---|---|
| Trusting beliefs toward store (three items) | A potential online shopper believes that the online store is benevolent, competent, honest, or predictable. | Jarvenpaa et al. [36] (three items) |
| Attitude (three items) | The belief that purchasing from iBook should, with good probability, result in either an overall positive outcome, or an overall negative outcome. | Jarvenpaa et al. [36] (two items) Developed in this study (one item) |
| Willingness to buy (four items) | A potential online shopper is willing to expose him- or herself to the possibility of loss and transact with the online store, that is, intention of individual to purchase from iBook. | Jarvenpaa et al. [36] (two items) Developed in this study (two items) |
| Actual buying behavior (one item) | Indication of whether the individual eventually purchased from iBook. A "1" indicates that the person bought from iBook, a "0" indicates that the person did not buy. | Developed in this study (one item) |

Briefing

Each of the computers in the lab was preassigned to run one of the four versions of the Web store corresponding to one of the four treatments. The computers in the lab were arranged in such a way that subjects could not see the other subjects' computer screens, which were administering the other treatments. Upon arrival, each of the subjects was directed to sit in front of one of the computers. The seating assignments were done randomly. Next, they were told that the task was to help a relatively new online bookstore, called iBook, to evaluate its Web site so as to find out how likely students were to buy books from the site. The subjects were then explicitly told that neither the experimental administrators nor the university had any financial interests in, and were not liable for, the actions of the bookstore, and that the experimental administrators were merely commissioned by the company to help it to evaluate its Web site. They were also reminded that they were not obligated to buy from the online store and that no purchase was necessary to obtain the $6 cash reward promised for their participation. Further, the subjects were told not to discuss their thoughts and decisions with the people seating next to them.

Experimental Session

The subjects were given 15 minutes to carefully browse through the Web page assigned, and understand the features and policies stated. Next, those who chose to buy from the store had to fill in an online form providing their personal details (name,

shipping address, telephone number, e-mail address), like any other online shopping experience. They were also asked to complete a direct debit authorization form issued by a local bank. This bill payment method is commonly used by students in this university, such as for paying tuition fees and dormitory rent.[5] The subjects were told in advance that this was the only payment method used for this special promotion by iBook. After they had finished browsing, the subjects were then asked to fill in a questionnaire that consisted of the variables discussed in the previous section (see Appendix Tables A1 and A2).

## Debriefing

After completing the questionnaire, the subjects were told not to discuss any aspects of the study and their purchasing decision with their friends or classmates.[6] Finally, they were thanked and dismissed. Their textbook orders were delivered to their classroom the following Monday. Before distributing the textbooks, the experimental administrators fully debriefed the subjects.

## Results

### Subject Demographics

About 55 percent of the participants were female. All had some experience in using the Internet: 94 percent had at least one year of experience, 97 percent used the Internet at least once a day, 76 percent used the Internet for at least 10 hours per week, and 36 percent of the subjects had previously made purchases over the Internet.

### Control and Manipulation Checks

No significant differences were found between subjects randomly assigned to each of the treatments with respect to Internet experience, Internet usage, online shopping experience, and gender ratio, indicating that control over participant characteristics and past experience through randomization appeared to be successful.

Several manipulation checks were performed after the subjects had completed the online session and questionnaire (see Appendix Table A2). Subjects exposed to portal affiliation were more likely to agree that iBook was affiliated with a well-known portal ($t = 5.37$, $p < 0.01$) and that its Web page bore the logo of a major portal ($t = 3.81$, $p < 0.01$) than those assigned to the Web page versions without the affiliation. In addition, participants who were shown customer endorsements were more likely to agree that the Web page displayed testimonials from satisfied customers ($t = 5.15$, $p < 0.01$), that the testimonials were attractive ($t = 3.83$, $p < 0.01$) and were useful ($t = 3.66$, $p < 0.01$) than those not presented with endorsements. Thus, the manipulations on portal affiliation and customer endorsement appeared to be successful.

Nonetheless, there was a chance that some of our subjects might not have paid attention and did not notice the Yahoo affiliation sign or customer endorsements. To

prevent this from contaminating our data, we inspected the data to look for subjects who were assigned to conditions with portal affiliation or customer endorsements but reported in the manipulation checks that they did not see the sign or endorsement. We found five cases, three from the customer endorsements condition and two from the portal affiliation condition, and removed them from the data set. We believe that it was simply the case that these five individuals did not pay attention during the experiment. They might have participated just for the cash reward. Subsequently, we ran two sets of analyses, one with all cases included, another one with these five cases removed. The two sets of results do not deviate from each other. The results reported below are with these five cases removed.

Table 3 shows the means and standard deviations of the dependent variables. Overall, 42 of the 133 (32 percent) subjects who participated in the study purchased from the online store.

Partial Least Squares Analyses

A second-generation causal modeling technique, partial least squares (PLS) [70], was employed to analyze the research model of this study. The software program used to conduct the PLS analysis was PLS-GRAPH (version 3.0). PLS is a structural equation modeling technique as is LISREL. LISREL is more suitable for confirmatory research, which requires more data points to perform the analyses. PLS, on the other hand, is more suitable for exploratory research and requires fewer data points. Based on these considerations, PLS better fit our study [7]. Using PLS, the measurement model and the theoretically constructed structural model were simultaneously evaluated [24].

The Measurement Model Assessment

The quality of the constructs in the research model was evaluated by assessing the convergent and discriminant validities of the research instrument. Construct convergent validity [17] is determined using three tests in PLS [25]: reliability of each item in a scale (the squared loading), the composite reliability or internal consistency of each scale, and the average variance extracted by each construct. In addition, Cronbach's alphas were also used to assess reliability. These test results are shown in Appendix Tables A1 and A3. The individual item reliabilities for all construct measures were higher than the recommended 0.5 threshold value [24, 31]. This suggests that each measure had higher explanatory power than error. The composite reliabilities of each construct were higher than the suggested value of 0.8 [53]. The average variances extracted by these constructs also exceeded 80 percent (see Appendix A3) and the Cronbach's alphas were above the 0.8 threshold. These results indicate that the constructs in the research model had acceptable levels of convergent validity and reliability.

The results in Appendix Table A3 show that for each construct, the correlation between any other two constructs (off-diagonal entries in the table) was less than the

Table 3. Descriptive Statistics of Dependent Variables

| Research variables | Mean | Standard deviation |
|---|---|---|
| Trusting beliefs | 4.130 | 0.966 |
| Attitude toward iBook | 4.738 | 0.864 |
| Willingness to buy | 4.168 | 1.067 |

square root of the average variance extracted by the measures of that construct (the diagonal entries in the table). This demonstrates sufficient discriminant validity between the construct measures of the research model. Besides, multicollinearity between constructs did not appear to pose a problem, because the squared correlations in the correlation matrix did not exceed 0.8, and the variance inflation factors in the collinearity diagnostics did not exceed 10 [4, 31].

The Structural Model Assessment

In this study, the explanatory power and path significance of the structural model was examined using the bootstrapping technique. The hypotheses developed in the second section were examined for their sign, size, and significance of the path coefficients. A 5 percent significance level was employed. The descriptive statistics for the research variables are documented in Table 3, the numbers of subjects who eventually bought their textbooks from iBook in each experimental group are shown in Table 4, while the results of PLS analyses are presented in Figure 5.

Overall, the variables examined in this study accounted for 36 percent of the variance in the willingness to buy from the online store, and 16 percent of the variance in the actual buying behavior. These explained variances were higher than the recommended value of 10 percent [22], suggesting that the research variables could adequately predict the buying intention and actual buying behavior. As shown in Figure 5, PLS analyses demonstrated that the standardized coefficients of all paths in the research model, with the exception of the paths from portal affiliation (*PORTAL*) to trusting beliefs (*TRUSTBELIEFS*) and from trusting beliefs (*TRUSTBELIEFS*) to willingness to buy (*WILLBUY*), were significant at the 5 percent level of significance. All other significant paths were positively directed. Thus, other than H1a and H2, all remaining hypotheses (H1b, H1c, H3, H4, and H5) were supported.

The relative effectiveness of peer endorsement over portal affiliation at building trust, and the lack of a significant path between Yahoo affiliation and trust in store, were interesting findings that warrant further investigation. Although our hypothesis that peer endorsement is more effective than portal affiliation was supported by the data, it remains unclear whether the effect was indeed due to the experimental manipulation, or to the way each Web strategy was operationalized. This is the subject of the second study.

Table 4. Numbers of Textbook Buyers in Each Treatment

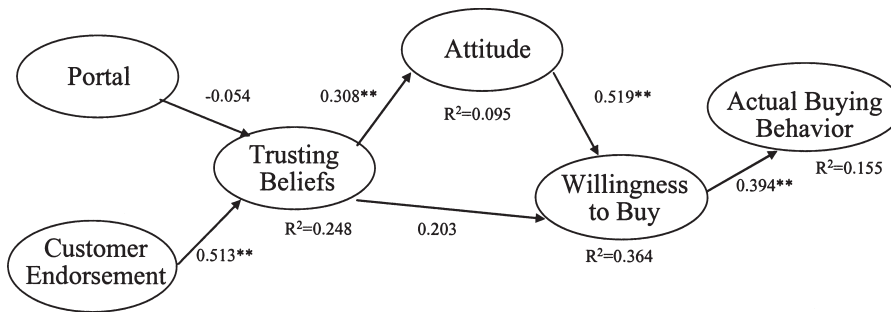|  | No Yahoo affiliation | With Yahoo affiliation |
|---|---|---|
| No peer endorsements | 5 (treatment size is 33) | 6 (treatment size is 32) |
| With peer endorsements | 15 (treatment size is 31) | 17 (treatment size is 37) |



Figure 5. Path Estimate (Standard Error) of PLS Analysis
** significant at the 5 percent level.

## Study 2: The Confirmatory Survey

WHILE THE RESULTS OF STUDY 1 SHOW that satisfied customer endorsements using similar peers is more effective than using Yahoo as a third-party affiliation in building initial trust, several questions remain unanswered. First, while it was found that Yahoo affiliation was not effective, it is unclear whether this is generalizable to other types of affiliation. For example, it could be that the result observed for Yahoo affiliation was caused by the fact that the business nature of iBook (selling books) is not related to the business nature of Yahoo. Therefore, to find out if this result is generalizable, it is necessary to test whether the same result would still hold for affiliation with another organization that has a similar business nature as iBook (e.g., Amazon.com).

Second, for satisfied customer endorsements, we chose to use customers who are similar in characteristics to the potential buyers (in this case, peer endorsers from the same university). This choice was based on our theory, which is supported by prior empirical evidence, that people who share common characteristics tend to perceive each other in a positive light and hence are more likely to trust each other, thus creating a strong trusting belief toward the online store. However, with this choice, it was unclear whether the results observed were caused by the shared common characteristics or that they knew (familiar with) the endorsers. Although the results observed are still theoretically interesting, it would be interesting practically to find out if the re-

sults would still hold if the endorsers are not familiar but similar to the potential buyers.

Finally, to further test our theory that people who share common characteristics tend to perceive each other more positively and to lay more trust on each other, we can compare the results associated with similar customer endorsers to those of dissimilar customer endorsers (e.g., foreign customer endorsers).

A follow-up study was conducted to address the above-mentioned issues. Specifically, the follow-up study had four specific objectives:

1. To investigate whether affiliation with an organization more closely related to the e-business of interest (selling books) would influence the results.
2. To determine whether or not there would be a difference if endorsements were made by peers who are not familiar but similar to the potential customers.
3. To examine whether or not there would be a difference if endorsements were made by people who are dissimilar to the potential customers.
4. To further confirm whether or not there is indeed a difference between peer endorsements and portal affiliation in terms of their effectiveness at building trust.

## Method and Task

The follow-up study was a questionnaire-based survey that required respondents to rank five versions of the iBook Web site based on whether they would trust to purchase from this new online bookstore. We were interested in the subjects' intention to buy as a whole—that is, a specific type of trusting intention (rank of "1" indicates highest trusting intention, and a rank of "5" indicates lowest trusting intention):[7]

1. Version 1 (familiar and similar peer)—Endorsement by customers who look similar to the respondents and whom the respondents may be familiar with (peers within the same university; one of the two versions used in Study 1);[8]
2. Version 2 (foreign peer)—Endorsement by customers who are foreign to the respondents (students from a foreign university who looked distinctly different from the respondents);
3. Version 3 (not familiar but similar peer)—Endorsement by customers who look similar to the respondents but are not personal acquaintances of the respondents (students from another local university who looked similar but not familiar to the respondents);
4. Version 4—Amazon.com affiliation.
5. Version 5—Yahoo affiliation (one of the two versions used in Study 1).

Rank differences between Versions 1, 2, and 3 indicate whether or not similarity and familiarity between endorsers and consumers do matter in online trust building. Rank differences between Versions 4 and 5 indicate that the choice of affiliation partners (differences in business nature) could also lead to trust building, despite Study 1's finding that Yahoo-affiliation may not be an effective trust-building strategy. Finally,

differences between ranks assigned to Versions 1 and 5 provide confirmatory evidence of differences in the effectiveness of peer endorsement versus that of Yahoo affiliation to build trust.

The questionnaire consisted of a large piece of paper with five screen shots printed. They are the five different versions of the home pages of iBook. Each screen shot showed different types of customer endorsements or portal affiliation as described above. With all five versions presented on a same page in front of the participants at one time, they could compare and make judgments in a much easier way.

The participants were told to imagine that they were visiting a new online bookstore for the first time. They were told to rank the five versions based on whether they would trust to purchase from this new online bookstore.

## Respondents

Undergraduate students in three lecture groups from the same public university, who did not participate in Study 1, were invited to take part in the follow-up study, which required them to rank the five hypothetical versions of iBook's Web site. The incentive used to encourage them to participate was the possibility of winning three cash vouchers for each lecture group.

## Results

A total of 182 students participated, of which 174 usable questionnaires were eventually received. Fifty-two percent of the respondents were females; all respondents had experience in using the Internet, with 97 percent having at least one year of experience. Seventy-nine percent used the Internet for at least 10 hours per week. About 34 percent had purchased goods over the Internet before, with 20 percent reporting making online purchases within the past 12 months.

The demographic statistics do not differ greatly from those of the main experiment (Study 1), and thus should be representative of the cohort of undergraduate students in the university. The nonparametric Wilcoxon signed ranks test [61] was used to identify any differences in the relative ranks assigned to the five versions of the iBook Web site, at the 5 percent significance level.

The overall mean ranks, in order of highest (1) to lowest (5) intentions to make purchases at the store, were Version 1 (mean rank = 2.40), Version 3 (mean rank = 2.60), Version 5 (mean rank = 3.06), Version 4 (mean rank = 3.07), and Version 2 (mean rank = 3.86). The results of the Wilcoxon signed ranks tests are reported in Table 5.

In summary, the key findings of Study 2 are: First, it confirms the findings of Study 1 that peer endorsement was indeed a more effective strategy than portal affiliation for building trust (Versions 1 and 3 were ranked higher than Versions 4 and 5). Second, endorsements were more effective when the endorsers were local peers (e.g., local university student endorsers versus foreign university student endorsers), or when endorsers were students from another local university rather than foreign peers

Table 5. Wilcoxon Signed Ranks Test Between Version Pairs of Web Site

| | Version 1 Familiar and similar peer endorsement | Version 2 Foreign (dissimilar) peer endorsement | Version 3 Not familiar but similar peer endorsement | Version 4 Amazon affiliation | Version 5 Yahoo affiliation | Mean rank (1 = highest, 5 = lowest) |
|---|---|---|---|---|---|---|
| Version 1: Familiar and similar peer endorsement | — | $z = -8.36$ $p < 0.01**$ | $z = -1.688$ $p = 0.09$ | $z = -3.70$ $p < 0.01**$ | $z = -3.54$ $p < 0.01**$ | 2.40 |
| Version 2: Foreign (dissimilar) peer endorsement | — | — | $z = 7.56$ $p < 0.01**$ | $z = 4.37$ $p < 0.01**$ | $z = 4.52$ $p < 0.01**$ | 3.86 |
| Version 3: Not familiar but similar peer endorsement | — | — | — | $z = -2.42$ $p = 0.016*$ | $z = -2.77$ $p < 0.01**$ | 2.60 |
| Version 4: Amazon affiliation | — | — | — | — | $z = 0.092$ $p = 0.93$ | 3.07 |
| Version 5: Yahoo affiliation | — | — | — | — | — | 3.06 |

* $p < 0.05$; ** $p < 0.01$.

(both Versions 1 and 3 were ranked higher than Version 2).[9] However, familiarity with the endorsers did not affect the effectiveness of the endorsement (i.e., student endorsers from the same university were as effective as those from another local university; ranks of Versions 1 and 3 were not significantly different). Third, affiliation with different types of organizations having different business natures did not affect the effectiveness of the strategy: Amazon and Yahoo affiliations were equally ineffective (Versions 4 and 5 were not ranked significantly different).

## Discussion

### Overall Model

THE FINDINGS OF THIS STUDY LARGELY VALIDATE the proposed research model integrated from the trust literature [50] and the framework suggested by Jarvenpaa et al. [36]. Specifically, on top of security seals of approval and conveyance of privacy, using a satisfied customer endorsement strategy could affect people's perceptions of the trustworthiness of an online bookstore.[10] Trust was found to directly affect attitude toward the online store. Consequently, positive attitudes had a positive influence on people's willingness to buy online. This is consistent with predictions from the TRA [23], and extends its applicability to the case of online purchasing of textbooks from an unfamiliar Web store. More important, the findings of this study further extend the trust literature [50] and the models of Jarvenpaa et al. [36] by empirically establishing the vital link from purchase willingness to actual buying behavior. This finding requires some elaboration.

In spite of the relatively high variance that was seen for willingness to buy (36 percent), that for actual buying behavior was comparatively lower at only 16 percent, with a 0.39 correlation between willingness to buy and actual buying behavior. Intuitively, this finding should not be surprising because actual behavior could be influenced by numerous factors besides an intention to engage in that behavior. For instance, the theory of planned behavior (TBP) [3] posits that besides intentions, actual behavior could also be influenced by actual control (obstacles or facilitators to adoption) [32]. A possible obstacle to actual buying behavior in this study could be that participants had various alternative means of acquiring their textbooks (e.g., from the university bookstore, purchasing used textbooks from seniors, etc.). Although they did not offer as many incentives to purchase as iBook did, they were, nevertheless, effectively risk-free. Finally, students may choose not to buy the course textbook at all, depending on whether they viewed the course as an important one, and whether they believed the instructor planned to use the book extensively.

We believe that this link is not a trivial one from a practical perspective, especially in the online shopping context. People may be perfectly willing to buy until they are ready to hit the final checkout button. For example, Enos [20] reported that among 9,500 respondents, 55 percent of shoppers abandoned carts before reaching, and 32 percent did so during, the checkout process. Our study results reflect this–although

the link between intention and actual buying is significant, the $R^2$ dropped from 0.36 (willingness to buy) to 0.16 (actual buying behavior).

Our data did not support H2, which hypothesized a direct positive relationship between trusting beliefs and intention to buy. This also warrants some discussions. TPB [3] postulates that the relationship between beliefs and intention is mediated through attitude. Consistent with TPB, we hypothesized that trusting beliefs positively affect attitudes (H3), which, in turn, positively affect intention to buy (H4). H3 and H4 were supported by our data. Nonetheless, a number of prior studies that examined trust found a direct relationship between trusting beliefs and intention to buy. Therefore, in the context of trust, it is likely that, on top of the mediating relationship, there is also a direct relationship between trusting beliefs and intention to buy. Based on this, we also hypothesized in H2 that potential customers' trusting beliefs may positively affect their intention to buy from the store. This hypothesis was not supported. Overall, this appears to be consistent with the predictions of TPB that attitude *fully* mediates the relationship between beliefs and intention.[11] However, this is inconsistent with the findings of some of the prior studies that examined trust. Future research needs to more closely examine this inconsistency.

## Strategies for Enhancing Trust

Marketing research [1, 9] has noted that association with a reputable third party and satisfied customer endorsements can help to build the trustworthiness of a store. The findings of our first study indicated that customer endorsements had a significant impact on building trust in an online store. This is of particular relevance to online stores without an established reputation, as was the case with iBook. This is because such stores could employ a similar peer endorsement strategy to develop brand equity among their potential target customers.

Portal affiliation, compared to similar-customer endorsements, was not as effective in enhancing trusting beliefs. This is consistent with our prediction that endorsers who are similar to the potential buyers may be more effective than a third-party portal when used as proof source of trust.

The customer endorsement strategy employs two powerful mechanisms. First, positive endorsements from people who had used the service established an instant positive reputation for iBook. This invokes reputation categorization, according to McKnight et al. [50]. Second, the endorsers are peers who are just like the potential customers. This also created what McKnight et al. call *unit grouping effect.* Having both these cognitive-based trust-building processes made the customer endorsement strategy very powerful.

A possible alternative explanation for the relative effectiveness of customer endorsement over portal affiliation is that the former might have attracted the respondents' attention more than the latter. Although both were in color and were about the same size, the endorsements contained pictures of real people and cycled through every eight seconds, which might have been more attention catching and biased the

results. However, during our pilot test, the respondents reported that they clearly saw both manipulations. Further, manipulation checks in the first study show that the treatments were successful and clearly seen by the respondents. Together, these rule out the alternative explanation.

Stewart [63] found that perceptions of the similarity between a proof source (e.g., portal) and the target site (e.g., a less-known vendor) affect trusting beliefs. Specifically, if customers perceive that the target site has a lot in common with the source Web site, they tend to believe that the target site is trustworthy. Thus, it is possible that our subjects saw the business nature of Yahoo as being rather different from iBook. Hence, they had a lower level of trust for iBook. Nevertheless, in Study 2, we found that although the use of Amazon as the affiliated portal was ranked higher than the use of Yahoo, the difference was not statistically significant.

It is important to point out that our results associated with portal affiliation are not directly comparable to those of Stewart [63]. First, the risks involved were different in the two studies. The risk involved in this study was higher than that of Stewart's because subjects were asked to provide specific bank account information. The high risk might have "raised the bar" for the subjects in making the purchase decision. Second, many of the variables included in the two studies are different. More specifically, they examined two different sets of antecedents of intention to buy. Therefore, one has to be careful when attempting to interpret and make direct comparison across the two studies.

The second study further investigated each Web strategy and its relative effectiveness. Overall, among the Web site versions studied in the follow-up study, endorsements by similar peers (regardless of familiarity) were found to be significantly more effective than affiliations with either Yahoo or Amazon, which were, in turn, significantly better than endorsement by foreign peers at building online trust. With reference to the first study, the results of the second study suggest that the business nature of the associated Web site does not have a major impact on trust building. Rather, it appears that endorsements by similar peers (local, nonforeign), but not by dissimilar peers (foreign), have the potential to be a very effective means of trust building among first-time visitors. This is because people trust those who share common characteristics with themselves more than those who do not. Therefore, as expected, our participants trusted foreign (dissimilar) peers substantially less than nonforeign (similar) peers. This is because the foreign peer endorsers appeared visibly different from the participants.

## Limitations

As in most empirical research, the study has several limitations. Thus, care must be taken when interpreting its results. First, the participants in the two studies are all fairly homogeneous students from the same university. The extent to which the results can be generalized across different sectors of the Internet shopper population could be limited. Nevertheless, the subjects should be representative of the Internet shopping population, because they fall within the 18–34 age group, which was the

most dominant group of Internet shoppers around the time this study was conducted [58, 66].

Second, bank direct debit was selected as the payment method in the first study because most of the participants did not possess a credit card. Using a credit card for payment would have been more realistic as it is one of the most common methods used by online stores. In spite of this, bank direct debit is still a popular payment method used for local sales transactions by many merchants, but would also involve significant risk in that personal information has to be disclosed. Nevertheless, to increase realism, the study could be replicated to see if the payment method (e.g., use of a credit card) could affect the results.

Third, the first study was conducted in a university laboratory, which could favor the subjects' perceptions of iBook. This effect is somewhat limited by the announcement that this was merely an evaluation study commissioned by iBook. The university had no financial interests in iBook, and would bear no obligations on behalf of iBook. While trust in iBook was generally positive (mean = 4.13, standard deviation = 0.966), it was not at such a high level as to suggest that the subjects had a great deal of trust in iBook. Most important, the focus of the study was not on the absolute level of trust. Rather, it was to investigate the *relative effectiveness* of two commonly used Web strategies.

Fourth, our study was conducted with the assumption that certain levels of security are needed first before potential buyers are willing to engage in any transaction. These include 128-bit encryption, a clear privacy policy, and the Web site certification of TRUSTe. Therefore, our results only suggest that portal affiliation is less effective than customer endorsement in the presence of these assurance mechanisms (128-bit encryption, privacy policy, and TRUSTe). Our results may be different without these assurance mechanisms.

Finally, as a first-step study, we aim to identify the effects of the two strategies on trusting beliefs *in general.* Nevertheless, it is recognized that trusting beliefs could be reflected by a number of subconstructs, such as honesty, benevolence, competence, and predictability [48, 50]. Future research needs to investigate the differential effects of trust-building strategies on different types of trusting beliefs.

Despite the limitations discussed earlier, the research was conducted in a realistic context with highly relevant tasks, while simultaneously attempting to maximize internal validity. Although caution has to be exercised to avoid overgeneralizing the findings, this research has also advanced our understanding of the two trust-building strategies for unfamiliar online stores.

## Research Implications

Drawing from McKnight et al. [50] and Meyerson et al.'s [52] conceptualization of initial trust, we focused on the strategies that could be employed during Web site design to affect the formation of cognitive-based initial trust. Our study investigated two specific processes of developing initial trust, *unit grouping* and *reputation categorization.* It provided one of the first empirical validations for McKnight et al.'s

[50] conceptualization of cognitive-based initial trust. Our findings further suggest that unit grouping might be stronger than reputation categorization as an initial trust-forming strategy in the online environment.

Past literature on Internet shopping has contributed greatly to our understanding of how trust in an Internet store can affect attitude toward, and willingness to engage in, online shopping [36, 42]. However, to our knowledge, the effectiveness of common strategies for building trust has not been widely investigated. Thus, a major contribution of this study is that it provides a theory-based understanding of the relative merits of two commonly used trust-building strategies, and of designing Web content in general [35, 37]. More importantly, the extent to which people's willingness to buy could indeed be translated into actual purchasing behavior has not been adequately investigated. Therefore, another contribution of this research is that it clearly links willingness to buy from an Internet store with actual buying behavior.

## Practical Implications

The findings of this study could provide practical guidelines to retailers that intend to use the Internet as a sales channel, particularly if they either do not have a brand name or have yet to establish a reputation. Specifically, they could use endorsements of satisfied customers who are similar (but need not be familiar) to potential clients to build trust and promote buying behaviors. Interestingly, despite being commonly recommended by practitioners as a possible trust-building Web strategy, affiliations with other organizations (such as Yahoo or Amazon) may not be a very effective strategy for instilling consumers with a sense of trust in an online store.

We believe that the customer endorsement strategy is a "diffusion" strategy. For this strategy to work, an Internet store needs to identify early adopters who have purchased and are willing to endorse the site. These are typically early innovation adopters as well as opinion leaders. Conventional sales promotion strategies, such as attractive discounts or incentive programs, could be used to entice a group of potential shoppers and then convert them into buyers. Being early innovation adopters and opinion leaders, they would also be effective endorsers.

## Conclusions

THERE ARE SEVERAL AVENUES FOR FUTURE RESEARCH. First, this research has tested only two of the many commonly used strategies for enhancing Internet shoppers' trust, and accounted for only 25 percent of variance in trust beliefs. What other strategies (e.g., varying recourse with "click-and-mortar," privacy and recourse statements, security seals of approvals, etc.) are effective in the same context remains to be discovered.

Second, this research investigated the effects of trust-building strategies on consumers' purchasing behavior based on their one-time experience with a specific online store. It would be interesting to examine the relative effectiveness of various

strategies when a longer-term relationship exists between a store and its potential customers.

Third, trust in store has accounted for only about 10 percent of variance in attitude. Other conventional antecedents of attitude (e.g., in the technology acceptance model) such as ease of use and usefulness may still play a major role. This could be investigated in future studies.

Fourth, it remains unknown whether the success of the endorsement treatment was due to the subjects' seeing the first endorsement or whether it was due to their exposure to multiple endorsements. Future study should more closely examine this issue. One possible way is to perform an in-depth analysis of the computer log files generated.

Finally, as a first study that attempts to examine the effectiveness of specific trust-building strategies, we only examined the effectiveness of customer endorsement strategy as a whole rather than the specific parts (photos, comments, etc.) of the strategy. It is possible that during the experiment, the subjects might have paid more attention to the photos than the comments. Therefore, it remains unclear whether the photos or the comments were more effective in developing trust. Future research should investigate this issue.

In conclusion, satisfied customer endorsements and portal affiliation are two practical strategies commonly used by online stores to increase consumers' trust. Despite their widespread use, no empirical support for their effectiveness has been reported in the prior literature. This research has provided empirical evidence of the effectiveness of the customer endorsement strategy and explained how it impacted the actual buying behaviors of consumers through a theoretical model with trust as a central construct. The results contribute to a better understanding of how the strategy works in both theory and practice.

Overall, these findings demonstrated that trust-building strategies could be employed by Internet merchants, particularly those who do not have a reputable brand, to overcome the reluctance of consumers to make purchases over the Internet. Further research along this direction would be needed to build up a pool of knowledge that enables firms to propel themselves into the Internet age.

## Notes

1. Cheskin Research and Studio Archetype/Sapient [14] listed a comprehensive list of Web strategies that are used by practitioners for developing online trust. Of this list of strategies, we chose to focus on two of the most commonly used ones—portal affiliation and customer en-

dorsement. As will be mentioned below, to gain control and maintain realism, a quasi-experiment was conducted to test the research model and hypotheses. As a general limitation of any experimental design, including quasi-experiments, the number of conditions that can be tested are limited.

2. We thank an anonymous reviewer for pointing this out.

3. We thank an anonymous reviewer for helping us to develop this argument.

4. The contents of each of the hyperlinks under "about us," "what's new," and "why you should trust this site" were also controlled. That is, all versions of the store Web page presented the same information under "about us," "what's new," and "why you should trust this site."

5. We could not use credit cards as a payment method because part of our student population does not own credit cards. The bank direct debit method is considered as a reasonable alternative, and some of the local online stores are actually implementing such a payment scheme. However, the risk involved is higher when using the bank direct debit payment method, for two reasons. First, as with using credit cards, the subjects had to reveal their names and account numbers and sign their signature on the form. Second, unlike using credit cards, where the maximum exposure is $50, there is no law limiting the maximum amount in the event of fraud in the bank direct debit method. A customer could potentially lose up to the amount he or she had in his or her account.

6. We tested the main differences for the key variables (trusting beliefs, attitudes, willingness to buy, and actual buying behavior) and did not find any significant differences across the six sessions.

7. We also asked the subjects to rank the versions according to their relative effectiveness at building their trust in iBook (a general trust or trusting belief). Two sets of analyses were performed, one using the data collected on trusting intention, the other one using the data collected on trusting beliefs. Because the results are identical, for brevity, only the set that was based on the data collected on trusting intention is reported here.

8. We randomly picked one of the four endorsement messages from the four used in Study 1 (as shown in Table 1). The one picked was the first one in Table 1. The corresponding name and picture were also used. Also, Versions 1, 2, and 3, which use a customer endorsement strategy, displayed the same message.

9. Note that this study was conducted in Hong Kong, which is known to be a collective society [34]. Taking the location of the research site into consideration, this result is consistent with [44], who argue that collectivists are more likely to form trust based on opinion of their in-group members (i.e., people who are similar to them) rather than of out-group members (i.e., dissimilar or foreign peers).

10. It is likely that those subjects who had clicked on the "about us," "what's new," and "why you should buy from us" buttons or links might behave differently from those who did not click on these links or buttons. To check whether this is a confounding factor, we ran four separate *t*-tests, each with trusting beliefs, attitude, willingness to buy, and actual buying behavior as the dependent variable and "clicked or not clicked" on one of the controlled links as the independent variable. The results of the *t*-tests show that "clicked or not clicked" did not significantly affect any one of the four key variables of interest.

11. When attitude was removed from the model, the $R^2$ for intention to buy dropped from 36 percent to 13 percent.

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Appendix

Table A1. Items Included in the Study Questionnaire and Their Reliability

| Constructs/ measures* | Cronbach's alpha | Composite reliability | Item reliability |
|---|---|---|---|
| Trusting beliefs (*TRUSTBELIEFS*) | 0.843 | 0.894 | |
| (a) iBook is trustworthy. | | | 0.799 |
| (b) I believe that iBook keeps its promises and commitments. | | | 0.861 |
| (c) I trust iBook keeps customers' best interests in mind. | | | 0.684 |
| Attitude (*ATTITUDE*) | 0.855 | 0.912 | |
| (a) I like the idea of using the Internet to shop from iBook. | | | 0.777 |
| (b) Using the Internet to shop from iBook is a good idea. | | | 0.806 |
| (c) I think the outcome of buying from iBook using Internet should be positive. | | | 0.743 |
| Willing to buy (*WILLBUY*) | 0.886 | 0.925 | |
| (a) I am considering purchasing from iBook now. | | | 0.760 |
| (b) I would seriously contemplate buying from iBook. | | | 0.729 |
| (c) It is likely that I am going to buy from iBook. | | | 0.848 |
| (d) I am likely to make future purchases from iBook's Web site. | | | 0.685 |
| Actual buying behavior (*ACTBUYBEH*) | N.A. | N.A. | |
| (a) Did you decide to buy from iBook? | | | 1.000 |

* 1 = strongly disagree; 7 = strongly agree.

Table A2. Manipulation Check Items and Their Reliability

| Constructs/ measures* | Cronbach's alpha | Composite reliability | Item reliability |
|---|---|---|---|
| **Manipulation checks** | | | |
| Affiliation with portal (*PORTAL*) | 0.925 | 0.963 | |
| (a) iBook is affiliated with a well-known portal. | | | 0.991 |
| (b) iBook bears the logo of a major portal. | | | 0.937 |
| Endorsement from satisfied customers (*CUSTOMER*) | 0.805 | 0.906 | |
| (a) iBook's Web site displays testimonials from satisfied customers. | | | 0.577 |
| (b) The testimonials on iBook's Web site are attractive to me. | | | 0.845 |
| (c) The testimonials on iBook's Web site are useful to me. | | | 0.752 |

* 1 = strongly disagree; 7 = strongly agree.

Table A3. Correlation and Square Root of Average Variance Extracted of Constructs

| Construct | TRUST-BELIEFS | ATTITUDE | WILLBUY | ACTBUY |
|---|---|---|---|---|
| TRUSTBELIEFS | 0.884 | | | |
| ATTITUDE | 0.308 | 0.881 | | |
| WILLBUY | 0.360 | 0.572 | 0.869 | |
| ACTBUY | 0.026 | 0.247 | 0.394 | 1.000 |

*Notes:* Diagonal elements are square roots of the average variance extracted. Reliability: An acceptable level of average variance extracted is 0.50 or above for a construct [25]. Discriminant validity: Correlations between constructs should be smaller than the average variance extracted of their respective constructs [25].