

THE EFFECT OF PERCEIVED ETHICAL PERFORMANCE OF SHOPPING WEBSITES ON CONSUMER TRUST

MING-HSIEN YANG
Fu Jen Catholic University
Taipei County 24205 Taiwan

NATALYN CHANDLREES
Fu Jen Catholic University
Taipei County 24205 Taiwan

BINSHAN LIN
Louisiana State University in Shreveport
Shreveport, LA 71115

HUNG-YI CHAO
Fu Jen Catholic University
Taipei County 24205 Taiwan

ABSTRACT

Trust is a key factor to the success of electronic commerce (EC). Websites facilitate enterprises selling online but also generate many problems, especially ethical issues that make customers hard to trust the sites. This study aims at investigating the effect of shopping websites' perceived ethical performance on consumer trust. Through an experimental study of the simulated shopping website, the result shows that consumers will trust the website if they feel the site keeps a good EC ethical performance such as practicing the privacy policies and stating it explicitly, describing products or services in an appropriate way. This finding suggests EC vendors have a better understanding of the relationship between website ethics and consumer trust. It may also encourage EC vendors to enhance their websites' ethical performance so they could gain trust from customers.

Keywords: consumer perception, electronic commerce (EC), online shopping, website, ethical performance, trust.

INTRODUCTION

Electronic commerce (EC) is one of the most important Internet applications. EC changes the way people shop, and shopping online gives people more flexibility in time and place. However, technical and non-technical limitations of EC exist. Technical limitations include EC software, system security, reliability, telecommunication bandwidth; and non-technical limitations include lack of consumer trust, user resistance, and privacy [3][17][21][22][33][36].

The lack of trust is one of the most frequently cited reasons for consumers not to shop online. Consumers do not trust the unknown faceless seller and paperless transaction. In online exchange relationships, which often require sensitive personal information and financial information, consumers feel more uncertain, lack of control and being more vulnerable, so trust plays an important role in such relationships [3][13][27]. A research study also demonstrated that trust is a significant predictor of users' willingness to transact with online firms [1]. Therefore, the important questions are: "how to build and increase trust?" and "What are the critical factors that can encourage consumers to trust the invisible vendors?"

According to Creyer and Ross [7], consumers do take perception of ethical/unethical activities by business into account when buying in brick and mortar stores. Customers are willing to pay higher prices in some ethical firms and pay lower prices to punish other unethical firms. Creyer and Ross' findings imply

that a firm's ethical performance will have positive impact on the shopping behavior of customers. In online circumstances, consumers will shop only if they trust the website. In other words, when they perceive that the website has good ethical performance, if the result of the study of Creyer and Ross could be extended to the online business, this perception could facilitate consumers to shop in the website, which represents they trust the web vendor and are willing to transact with it. So it seems appropriate for us to consider perceived ethical performance of shopping website as an antecedent of consumer trust. Furthermore, these results suggest consideration of ethical issues from the consumers' perspectives and conducting research into the ethical issues that really matter to consumers, particularly those that are likely to impact on them [2].

In recent years, a lot of ethical issues have arisen among the shopping websites, such as: advertising misleading/untruthfulness, bad product quality, cheating, privacy, property, information misuse, trust betrayal, etc. These all happened because the development of ethics can not keep pace with the growth of technology in the online business, and hence bring a lot of problems whose scope is not clear yet. Apart from new problems accompanied with applications of new information technology (IT), on the whole, lack of ethical consideration and responsibility of web vendors can be regarded as one of the main factors that cause consumers to feel dissatisfied and insecure. So it is crucial to increase the ethical concern of the web vendors to make the online business successful. However, although Ellis and Griffith [8] pointed out that there was a need for more research and better measures of ethics among information system professionals; little research study has been done on the important issue of ethical behavior of web vendors.

Based on the study of Creyer and Ross [7], this study presumes that consumers also take perception of ethical/unethical behavior of websites into consideration when they are making online shopping decisions. The customers would prefer shop on the websites that have better ethical performance, and this presumed proposition can be attributed to the effect of perceived ethical performance of shopping websites on consumer trust. The purpose of the study is to explore the relationship of shopping websites' ethics and consumer trust. Ethics and trust are multi-dimensional concepts, and consumers' different perceptions of websites ethical performances may lead to trust variation. The remainder is organized as follows. Literature review of this study is introduced in the next section. The research methods are presented in the third section in which we develop the research framework and hypotheses; and the variables with their measurements are

also described. The experiment approach by using which the research hypotheses were tested is illustrated in the section as well. The result of the experiment and the analysis of data are reported in the fourth section. The conclusion is presented in the last section, in which suggestions for the future study are also discussed.

LITERATURE REVIEW

The ethical issues in EC

EC is defined that the process of distributing, marketing, buying, selling or exchanging products, services and/or information including the Internet, doing the business transactions electronically [36]. For B2C (business-to-customer), the success of shopping website is critical to the establishment of viable net-enabled business. B2C websites are particularly challenging in many aspects. As the web become an increasingly essential interface, usability study begin to focus more specifically on extending the basic usability principles into the web environment [17][19].

According to Keeney [19], the Internet can be construed as an evil parallel universe where marketers collect data on hapless consumers, hackers hunt for credit-card numbers, identity thieves compile profiles to commit crimes in other people's names and the government collects data on its citizens at agency websites. The reality is that the EC is not as different from traditional commerce as it might appear at the first blush. Mason addressed four ethical issues in the information age: privacy, accuracy, property and accessibility (PAPA). These information ethics issues are still used until nowadays society to discuss, but they must be examined and analyzed from a different perspective [11][18][24]. Conger et al. validated Mason's PAPA and found that the issues to be more complex than their previous thought. For further study, they suggested several issues including ownership of computing time, access paths, personal information and expertise, rights to privacy and accuracy, timely applications, stakeholder methods of identification, and rights and responsibilities [6]. Turban et al. [36] stated that the implementation of EC involves many legal issues and ethical issues. The legal issues they presented were comprised of privacy, intellectual property, free speech, taxation, computer crimes, consumer protection, and others. And the ethical issues, based on Mason's study, were categorized into PAPA and others such as spamming, censorship, protecting children, taxation, and computer crimes.

Radin et al. [29] listed ethical issues in EC including privacy, security concerns, websites unlabeled as advertising, cybersquatters, online marketing children, conflicts of interest, and manufacturers competing with intermediaries online. According to some studies of ethical issues facing the Internet, the most often mentioned ethical concerns regarding marketing on the Internet are security of transactions, illegal activity (e.g. fraud and hacking), privacy, honesty/trustfulness, judgment by same standard as other media, pornography, product warranty, plagiarism, targeting children, unsolicited e-mails, and false advertising [1][28][33]. In the study of Wu and Wu [39] which examined the factors influencing EC ethical issues, the indicators used for measuring EC ethical issues were privacy, security of transaction, intellectual property, integrity and accuracy of information.

Some research studies indicated that the questionable practices engaged in dot-coms would directly affected competitors,

investors, and customers [5][20][30]. According to them, ethical issues which impact customers are privacy, spamming, transparency, and trustfulness. Kracher and Corritore [20] tried to answer the question: "Is there a special EC ethics?" They found that there is no special EC ethics but EC ethics has different manifestation and scope at more specific level, in which the top issues are access, intellectual property, privacy and informed consent, protection of children, security of information, and trust. However, other perspectives are also importantly considered to capture the ethics of shopping websites in a more comprehensive way. For example, a consideration of ethics does not examine business/firm ethics is quite inadequate. Hence, this study adds business ethics to the experiment manipulation to comprehend the EC ethical issues.

Consumers' trust in web vendors

Mayer et al. [25] synthesized disciplinary perspectives and defined trust as "the willingness of a party to be vulnerable to the actions of another party based on the expectation that other will perform a particular action important to the trust, irrespective of the ability to monitor or control that other party". Their definition is widely recognized and the most frequently cited [1][3][26].

Three different theoretical perspectives most frequently adapted to investigate trust are: social psychological perspectives, sociological perspectives, and personality theory [3][26]. Social psychological perspectives consider the development of trust between individuals, specifically focuses on transactions that have been made by shoppers and merchants. Sociological perspectives consider the development of trust between individuals and institutions, such as an organization, a trusted third party organization, and etc. Sociologists describe trust as an institutional phenomenon and individuals put their trust in those institutions. Personality theory considers trust as a belief, expectancy or feeling which deeply rooted in the individual personality. Personality theorists focus on trust as a personality characteristic which is formed by specific developmental and social contextual factors and varies in individual propensity to trust.

Trust is a vulnerable thing which is broken easily. When trust is broken, it is hard to rebuild, so how to manage and maintain trust is an important issue, especially in the virtual world, which is even harder keeping consumers to trust a website. According to Friedman et al. [12], people trust people, not technology, in other words, consumers trust in the designers of technology (or technological artifacts) is bounded by the understanding of the conditions under which the technology functions reliably and safely. So besides considering the website ethics, it is necessary to look up the firm's ethics or the ethics of technology designers, because the technological artifact reflects the designer's ethics.

Web vendors should build websites that are not only useful and easy to use as TAM (technology acceptance model) suggests, but that also include trust-building mechanisms. Creating a trust-based connection to customers is a primary benefit which is nearly as important as the technical attributes of the website such as usefulness [15][38]. Among the indicators that commonly used for measuring consumer trust in EC, McKnight et al. [27] found that benevolence and honesty/integrity are important trusting beliefs. These beliefs are closely related to ethical beliefs and provide foundation for us to explore the possible relationship of web vendors' ethical performance and consumer trust.

RESEARCH METHODS

Framework and hypotheses

Based on the above theoretical foundations and the established empirical support for the relationship between the website ethical issues and trust for consumers, the study incorporates the concept of the relationship within the research framework as Figure 1. That is, the shopping website's ethical performance will be perceived by the consumers and the perceived ethical performance will then influence the consumers' trust, which is composed of trusting belief and trusting intention, in the web vendor. Moreover, consumer characteristics of religiosity, education, and gender may influence how the consumers perceive the shopping website's ethical performance and consumer characteristics of web experience and individual trust propensity may influence how the perceived ethical performance is related to the consumers' trust in the web vendor. To measure the relationship, this study uses the construct of the shopping website's ethical performance. It involves EC ethics and business ethics, and the construct of consumer perception because ethics is a subjective matter. Ferrell and Hirt [9] believed that the best way to determine whether a condition is ethical or unethical is to adopt consumers' perception. Therefore, this study proposes the following hypothesis:

H1: Shopping website's ethical performance is positively related to its ethical performance perceived by consumers.

When confronted with an ethically performed online shopping environment, consumers will perceive the vendor to be worthy trusted in commercial transactions and make a purchasing decision on it [2][23][35]. In other words, consumers' trust in the web vendor, which includes trusting belief and trusting intention, will be positively related to shopping website's perceived ethical performance. This leads to two hypotheses as follow:

H2: Shopping website's perceived ethical performance is positively related to consumers' trusting belief in the site.

H3: Shopping website's perceived ethical performance is positively related to consumers' trusting intention in the site.

In addition, several studies found that trusting belief is associated to trusting intention in that a consumer with high trusting belief perceives the website to have attributes to increase his/her trusting intention (willingness to depend on the web vendor and seek information or perform commercial transactions) [1][25][26]. Hence, this study proposes the following hypothesis:

H4: Trusting belief is positively related to trusting intention.

Consumer characteristics such as religiosity, gender and education are significant determinants of consumers' ethical beliefs [28][37]. More specifically, better consumer characteristics (female, higher education and religionist) strengthen this relationship. Therefore, this study utilizes these three factors as moderating variables and proposes the following hypothesis:

H5: Consumers' characteristics such as religiosity, education and gender may moderate the relationship between shopping website's ethical performance and its ethical performance perceived by consumers.

Other consumer characteristics such as individual trust propensity will also moderate the consumer trust in web shopping: higher level of trust propensity leads to greater trust in the web vendor. In addition, web experience will impact the consumers on building trust in the web vendor, and more purchase experience will increase consumer trust in web shopping [17][21][25][40]. Hence, this study proposes two hypotheses as follow:

H6: Consumers' characteristics such as web experience and individual trust propensity may moderate the relationship between shopping website's perceived ethical performance and consumers' trusting belief in the site.

H7: Consumers' characteristics such as web experience and individual trust propensity may moderate the relationship between shopping website's perceived ethical performance and consumers' trusting intention in the site.

Variables manipulation and measurement

Because of the complexity of shopping website's ethical performance, this study differentiates the construct into EC ethics

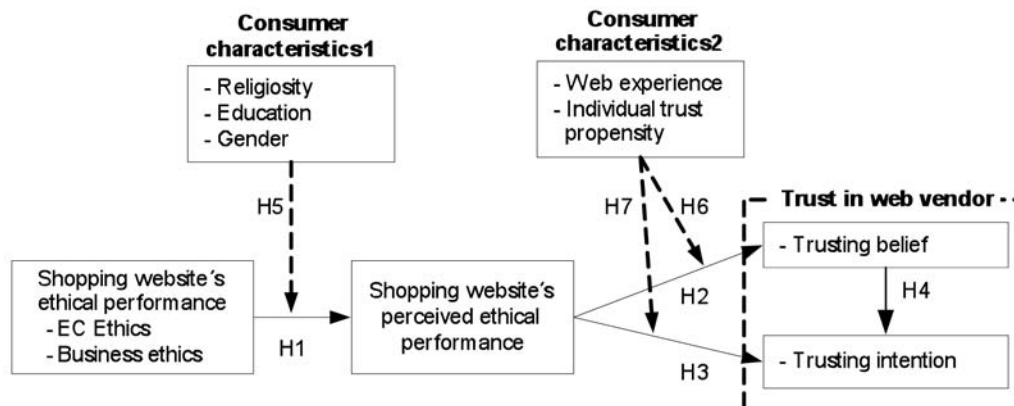


FIGURE 1: Research model

TABLE 1: Independent variables manipulation

| Constructs | Variables | High ethical performance | Low ethical performance |
|-----------------|------------------------|---|---|
| EC ethics | Privacy | -Privacy policy stated clearly and explicitly. | -No privacy policy stated. |
| | Accuracy and integrity | -Explicit tax. -Information disclosed clearly. | -Implicit tax. -Information confusing. |
| | Property | -Regular products. -Responsible for the information posted and collected on its website. | -Questionable products. -Not responsible for the information posted and collected on its website. |
| Business ethics | | -Do ethical practices, such as respecting public welfare, benevolent actions. -Respect consumers and lives and emphasize information transparency. | -Do not do ethical practices and consider only on sales maximum goals by providing consumers minimum value and employing cookies to identify their consumers. |

and business ethics. To acquire consumer trust for a website, according to the study of Yoon [40], managing the overall image of the company is more important than emphasizing the functionality of the website. Hence, business ethics also plays an important role in building consumers trust. For this reason, this study considers both EC ethics (which discuss ethics from the web-based point of view) and business ethics (which discuss ethics from the firm's point of view). This study uses privacy and informed consent [5][20][30][33], accuracy and integrity, and property [20][39] to measure EC ethics. For business ethics, this study utilizes ethical practices and corporate culture as variables.

A lab experiment is used to test the hypotheses because the use of the experiment as a research strategy provides a higher degree of internal validity [5][14][15][23]. In this study, independent variables are used to set up the experiment environment and the data of dependent variables are collected by online questionnaire after the experiment. The independent variable (treatment) is shopping website's ethical performance. To measure it, this study developed an artifact of shopping website, named Shop.com, and generated two different experimental circumstances to compare the virtual websites of high ethical performance and low ethical performance. The manipulation of independent variables is shown as Table 1.

The dependent variables of this study include the perceived ethical performance of the site, trusting belief, and trusting intention. For the trust constructs, the measurement characteristics of the instrument which used by McKnight et al. are quite suitable for this study [26][27]. Therefore this study adapts their measurements. Three variables are used to measure trusting belief. The competence variable refers to consumers' perception of how well the vendor does its jobs or how knowledgeable the vendor is (expertise/competence). The integrity variable captures the perceptions of vendor honesty, truthfulness, sincerity, and keeping commitments (reliability/dependability). The last variable of trusting belief is the benevolence variable, whose measurement items focus on the vendor acting for the customer's best interest, trying to help, and being genuinely concerned. For trusting intention, two variables are used: willingness to depend the specific web vendor and subjective probability of depending (follow web vendor advices, provide personal information, and buy from the web vendor). The dependent variables are measured using the five point Likert scale ranging from 1 "strongly disagree" to 5 "strongly agree," and their measurement items are shown in Table 2.

The moderating variables are the consumer characteristics such as religiosity, education and gender that moderate the relationship between ethical performance of the website and consumers' perception. Other characteristics include individual trust propensity and web experience that moderate the relationship between consumers' perceived ethical performance of the website and trust. Their measurements are shown as Table 3 [21][27].

Data collection

This study used a convenient sample of undergraduate and graduate students at two major universities in Taiwan. Using students as research subjects sometimes has been questioned for the external validity. However, online customers are generally younger and more highly educated than conventional customers, which makes students sample closer to the online customer population. Among the total 238 respondents, 58.4% were female, 91% were undergraduate, and 65% did not have any religion. For the web experience, respondents were familiar with the web, 55% had above seven years of web experience and 75% had online shopping experience. So this is a sample of proper representative of online shoppers in Taiwan. This study sent an e-mail invitation to the participants and sought for their cooperation to join an experiment. Data were collected through questionnaires administered at the end of the study. The study was conducted on a simulated shopping website (Shop.com) and used randomized block factorial design to equally assign participants to one of two levels of the treatment indicated in Table 1. The participants were assigned to one of the scenarios randomly according to the personal information they were required to fill in. While entering the shopping website, they were asked to read a scenario which described the culture of the company (Shop.com). Then, they were told to achieve some tasks, including viewing three products they were interested, selecting products and adding to the shopping cart, and making a payment with a virtual credit-card number provided by this study. At the end, the participants were asked to complete the online questionnaire. The content of questionnaire includes questions to measure the dependent and moderate variables depicted in Table 2 and 3, and the independent variables manipulation check questions.

The tools used to build the virtual shopping environment include an operation system with website server, database, programming language (JSP & HTML), Web-Editor software and etc. Preliminary analyses of the experiment procedure

TABLE 2: Measurement of dependent variables

| Constructs | Variables | Items |
|---|---|---|
| Consumers' perception of EC ethics | Privacy and informed consent (PV) | <ul style="list-style-type: none"> - I think Shop.com has the privacy policies and states it explicitly and clearly. - I think Shop.com can protect its consumers' transactions information. - I think Shop.com explains how it would use the information collected about me. - When applying a membership of Shop.com, it gives me choices of how my information will be used. |
| | Accuracy and integrity (AC) | <ul style="list-style-type: none"> - Shop.com describes the firm's information clearly. - Shop.com's products description and advertisement makes me feel that the website is trustworthy. - I think information provided by Shop.com is accurate. |
| | Property (PO) | <ul style="list-style-type: none"> - I think Shop.com respects intellectual property. - I think Shop.com does not sell merchandise violating others intellectual property. |
| Consumers' perception of business ethics (BE) | | <ul style="list-style-type: none"> - I think Shop.com encourages us to care public welfare. - From the website, I think Shop.com usually conducts ethical practices and social responsibility activities. |
| Trusting belief | Benevolence (TBB) | <ul style="list-style-type: none"> - I believe that Shop.com will act in my best interest. - If I need help, Shop.com would do its best to help me. - Shop.com is interested in my well-being, not just its own. |
| | Integrity (TBI) | <ul style="list-style-type: none"> - Shop.com is truthful in its dealings with me. - I would characterize the Shop.com as honest. - Shop.com would keep its commitments. - Shop.com is sincere and genuine. |
| | Competence (TBC) | <ul style="list-style-type: none"> - Shop.com performs its role of giving fulfillment of any transaction carried out. - In general, Shop.com is very capable in handling online transactions. |
| Trusting intention | Willingness to depend (TIWD) | <ul style="list-style-type: none"> - When an incorrect transaction arises, I would feel comfortable depending on the information provided by Shop.com. - I can always rely on the Shop.com in any situation. |
| | Subjective probability of depending – give information (TIGI) | <ul style="list-style-type: none"> - I would be willing to provide information like my name, email address, home address, and phone number to Shop.com. - I would be willing to provide information like my ID card number to Shop.com. |

were conducted by inviting two ethics experts to check the appropriateness of the experiment procedure and scenarios. The study circumstances and questionnaire draft went through two phases of pretest. First, two professors of ethics, two doctoral students of business administration, and five MIS graduate students were asked to review the content of study circumstances and to ensure the procedure was appropriate and easy to navigate. Second, 45 MIS graduate students participated in the pretest of doing a shopping on Shop.com and provided feedback to improve the study and revise the questionnaire.

Limitations

Two limitations of the study should be noted. First, the study employed a convenience sample from two large universities in Taiwan. Though the respondents had plenty online shopping experience, their ethical perceptions might not be a good representative of regular online shoppers. Second, this study considered four variables for shopping website's ethical performance that influence consumers' trust. That was appropriate because this study used the experimental approach which is not easily conducted for too many treatments. However, ethics is a multidimensional construct; there may be other online ethical performance dimensions that will influence on consumers' trust, such as security of transaction, pornography, and advertisement.

TABLE 3: Measurement of moderating variables

| Sub-constructs | Measurement |
|-----------------------------|--|
| Religiosity | None/ Christian/ Buddhist/ Taoist/ Catholic/ Others |
| Education | Undergraduate/Graduate/Part-time graduate student |
| Gender | Male /Female |
| Web experience | <ul style="list-style-type: none"> Degree of using website experiences. Time spent per day on websites. Degree of online shopping experiences Time spent per week on each of the following website activities: <ul style="list-style-type: none"> • Accessing information on the website about products and services to buy. • Shopping (i.e., actually purchasing something) on the website. Frequency of online shopping per week Money spent per each online shopping. |
| Individual trust propensity | <ul style="list-style-type: none"> It is easy for me to trust a person/thing. My tendency to trust a person/thing is high. I tend to trust a person/thing, even though I have little knowledge about that. Trusting someone or something is not difficult. |

RESULTS AND ANALYSIS

Data analysis

This study used the SPSS (statistical package for the social science) software and LISREL 8.51 for data analysis. First, descriptive analysis was executed to profile the characteristics of the sample data. Second, reliability and validity of measurements were assessed. Finally, structural equation modeling (SEM) and moderation regression analysis (MRA) were performed to test the hypotheses.

To validate the appropriate manipulation of ethical performance with high and low treatment in the experiment, this study performed the analysis of variance (ANOVA) on the data. The results were different for each variable between two ethical performance groups at significance level of 0.05, which means that the manipulation reached its goal. This study also conducted a principal components analysis (PCA) to determine the extent to which the variables were discriminated from each other. The PCA was performed for three constructs respectively: shopping website's perceived ethical performance, trusting belief, and trusting intention. Prior to the PCA, the adequacy of the data was verified through the Kaiser-Meyer-Olkin (KMO) and Bartlett test of sphericity. The KMO measure of sampling adequacy is a popular measure for assessing the extent to which the indicators belong to a construct. It is suggested that a KMO measure should be greater than 0.5 for a satisfactory factor analysis to proceed [18]. The Bartlett test is a statistical test for the presence of correlation, which indicates whether the factor model is inappropriate. The results of the KMO measure of sampling adequacy for the three constructs were all above 0.5 (0.924, 0.925, 0.912) and the Bartlett tests of sphericity were all significant with p-value less than 0.001, indicating that this was an appropriate factor model. The model suggested that the first construct had four factors (privacy, accuracy, property, business ethics), the second construct had three factors (benevolence, integrity, competence), and the third construct had two factors (willingness to depend, give information) as shown in Table 4, where all Cronbach's α values exceeding the 0.7 threshold suggested by Rivard and Huff [32] provided reliability evidence for internal consistency of the measurement scales.

Three validity issues were analyzed in the study: content validity, convergent validity, and discriminant validity. Content validity assesses if the measurement represents all the dimensions of the construct. In this study, the content validity was ensured through the process of preliminary analysis and two phases of pre-testing. The process of identifying and refining the items also provided satisfactory confidence in the content validity of the instrument. Convergent validity is to evaluate if the related items converge on the appropriate constructs and discriminant validity is to examine if the constructs can be differentiated from related constructs. The data were analyzed with confirmatory factor analysis (CFA) by using structural equation modeling techniques to assess the convergent and discriminant validity of the latent

TABLE 4: Reliability of measurement

| Constructs | Variables | Cronbach's α |
|--|------------------------------|---------------------|
| – Shopping website's perceived ethical performance | Privacy (PV) | 0.9021 |
| | Accuracy (AC) | 0.9210 |
| | Property (PO) | 0.7935 |
| | Business ethics (BE) | 0.9057 |
| – Trusting belief | Benevolence (TBB) | 0.8632 |
| | Integrity (TBI) | 0.9673 |
| | Competence (TBC) | 0.9088 |
| – Trusting intention | Willingness to depend (TIWD) | 0.9306 |
| | Give information (TIGI) | 0.8779 |
| Overall | | 0.9727 |

constructs. This study conducted CFA by creating a LISREL path diagram for each construct and corresponding items. The model fit can be assessed by the following indices: goodness-fit-index (GFI) and normed fit index (NFI) greater than 0.90, adjusted goodness-fit-index (AGFI) greater than 0.80 [13], comparative fit index (CFI) greater than 0.90, and root mean square of approximation (RMSEA) lower than 0.08 for a good fit and lower than 0.05 for excellent fit [16]. The CFA was performed in three models: shopping website's ethical performance (EP), trusting belief (TB), and trusting intention (TI). The fitness indices of the CFA analysis of each model are shown in Table 5. It can be seen that all GFI, CFI, NFI values were above 0.9 and all AGFI values were above 0.8. Though the RMSEA values were slightly above 0.08, the model fit was still acceptably good. Fornell and Larcker [10] suggested that convergent validity can be assessed by verifying the significance of the t values associated with the parameter estimates and discriminant validity can be evidenced when the average variance extracted (AVE) for each construct is greater than the square correlation between that construct and any other construct in the model. According to the criteria, the constructs also demonstrated adequate convergent validity and discriminant validity in each of the three models.

Hypotheses testing

To test hypotheses H1-H4, the main effects of the model proposed in Fig. 1, this study further applied the LISREL to generate the appropriate structural model. The goodness of fit indexes of the proposed model were : $\chi^2 = 76.58$ (df = 40), NFI = 0.97, CFI = 0.98, GFI = 0.94, and RMSEA = 0.062. The overall fit measures indicated that the proposed model had achieved a good fit to the data. Figure 2 shows the structure model with the path coefficients and t-values. The R² values ranged from 0.439 to 0.618 indicating that every path had good ability to explain the relationship between the constructs on both ends of that path.

TABLE 5: Summary of fit indices for measurement models

| Model | χ^2 | df | P-value | RMSEA | GFI | AGFI | NFI | CFI |
|-------|----------|----|----------|-------|------|------|------|------|
| EP | 107.61 | 38 | 0.000*** | 0.086 | 0.93 | 0.87 | 0.96 | 0.97 |
| TB | 67.49 | 24 | 0.000*** | 0.093 | 0.94 | 0.88 | 0.97 | 0.98 |
| TI | 78.98 | 26 | 0.000*** | 0.093 | 0.82 | 0.88 | 0.96 | 0.97 |

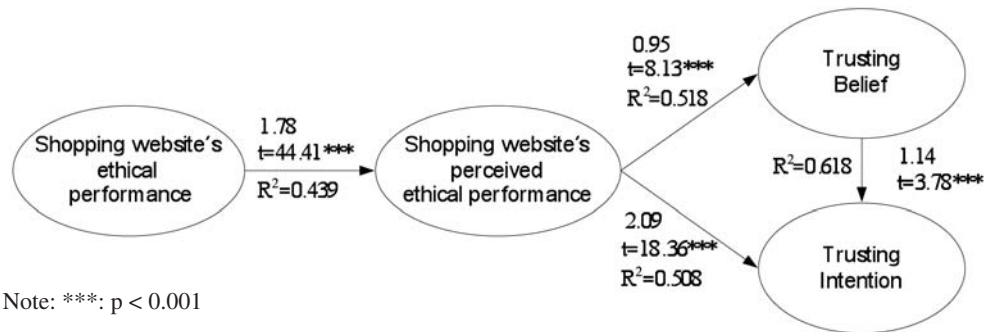


FIGURE 2: Structural model

H1 hypothesizes the existence of a positive relationship between shopping website's ethical performance and its perceived ethical performance. The estimated path coefficient was 1.78 at a significant level (t-value = 44.41, p < 0.001), so H1 was supported. It can be explained that ethics are not only an issue for the seller side but also for the buyer side, it is a dyad. Consumers are major participants in the business process. Without considering their perception of ethical performance could result in an incomplete understanding of the process [35][37]. H2 postulates the existence of a positive relationship between shopping website's perceived ethical performance and consumers' trusting belief. It can be seen from Fig. 2 that H2 was also supported (path coefficient = 0.95, t-value = 8.13, p < 0.001). H3 argues the existence of a positive relationship between shopping website's perceived ethical performance and consumers' trusting intention, it was also supported (path coefficient = 2.09, t-value = 18.36, p < 0.001). H4 states the existence of a positive relationship between trusting belief and trusting intention. Its estimated path coefficient was 1.14 at a significant level (t-value = 3.78, p < 0.001), H4 was supported, too.

To test the effects of moderator variables (H5, H6, and H7), this study employed moderated regression analysis (MRA) proposed by Sharma et al. [34]. They suggested a process involving three regression equations listed below to test moderating relationship. The first regresses the dependent variable (Y) on the independent variables (X), the second regresses the dependent variable (Y) on both moderators (Z) and independent variables (X), the third regresses the dependent variable (Y) on the moderators (Z), the independent variables (X), and the product of the moderators and independent variables (XZ). The decision rules of the regression result are: (1) If the coefficient of model 2 and model 3 ($\beta_2 \neq 0, \beta_3 = 0$) are not significantly different, then z is not a moderator variable; (2) If model 1 and model 2 are not different ($\beta_2 = 0, \beta_3 \neq 0$) but significantly different from model 3, then z is a pure moderator;

(3) If model 1, model 2 and model 3 ($\beta_2 \neq \beta_3 \neq 0$) are significantly different from each other, then z is a quasi moderator.

$$\text{Model 1: } Y = \alpha_1 + \beta_1 X + \varepsilon_1$$

$$\text{Model 2: } Y = \alpha_2 + \beta_1 X + \beta_2 Z + \varepsilon_2$$

$$\text{Model 3: } Y = \alpha_3 + \beta_1 X + \beta_2 Z + \beta_3 XZ + \varepsilon_3$$

This study conducted the above MRA analysis to test H5, H6, and H7 respectively. In H5, the dependent variable (Y) is shopping website's perceived ethical performance (PEP), the independent variable (X) is shopping website's ethical performance (EP), and the moderator variables (Z_s) are religiosity, education, and gender. In H6, Y is trusting belief (TB), X is PEP, and Z_s are web experience (WE) and individual trust propensity (ITP). In H7, Y is trusting intention (TI), X and Z are the same as of H6 (X = PEP and Z = WE, ITP). The analysis results are summarized in Table 6, in which only the coefficients of model 3 are presented. It can be noted that all β_3 values were not significant when $Z \neq$ Education, which means that model 3 and model 2 were not significantly different and therefore such Z was not a moderator variable according to the first rule of Sharma et al. mentioned above. So H6 and H7 were not supported, and H5 was partially supported considering the moderating effect of consumers' education on their perception of the shopping website's ethical performance. In order to check if consumers' education was a pure moderator or quasi moderator, further comparison of model 1, model 2, and model 3 was needed. Since the estimated value of β_1 in model 1 was 0.663, and the estimated values of β_1 and β_2 in model 2 were 0.666 and -0.132, and all of them were significant (p < 0.01), combining with the data in Table 6, it can be noted that model 1, model 2, and model 3 were significantly different from each other. According to the third rule of Sharma et al., education is a quasi moderator.

TABLE 6: Moderating effects of consumers' characteristics

| Hypothesis | Z | β_1 | β_2 | β_3 | Moderator |
|------------|-----------------------------|-----------|-----------|-----------|-----------|
| H5 | Religiosity | .659 | .005 | .013 | no |
| | Education | -.622 | -.663*** | 1.417*** | yes |
| | Gender | .708*** | .097 | -.054 | no |
| H6 | Individual trust propensity | .550*** | -.009 | .227 | no |
| | Web experience | .829** | -.006 | -.138 | no |
| H7 | Individual trust propensity | .728*** | .246 | -.133 | no |
| | Web experience | .411 | -.234 | .329 | no |

Note: **: p < 0.01; ***: p < 0.001; $\beta_1, \beta_2, \beta_3$ are regression coefficients of model 3.

The results of hypotheses testing are summarized in Table 7. Among the seven hypotheses, four were supported (H1, H2, H3, H4), one was partially supported (H5) and two were not supported (H6, H7). The support of H1 not only confirmed our argument that shopping website's ethical performance is positively related to its ethical performance perceived by consumers, but also validated that there was significant difference in perceiving the website's ethical performance between two experiment groups (browsing high ethical performance and low ethical performance website respectively) and the website's ethical performance was perceived by the participants properly. The analysis results of SEM and ANOVA also showed that the website's perceived ethical performance was different for each variable (privacy, property, accuracy, business ethics) between two groups at significance level of 0.05, which meant the manipulation of this study was appropriate. The support of H2 and H3 validated the main idea of this study that good ethical performance of the shopping website perceived by consumers will increase consumers' trust. This also provided strong motivation for shopping websites to enhance their ethical performance because according to Bhattacharjee [1], trust is a significant predictor of users' willingness to transact with online firms. The support of H4 was consistent with the viewpoint of McKnight et al. [27], which argued that trusting belief seems to be the significant factor of trusting intention. H5 postulates that consumer characteristics such as religiosity, education and gender may moderate the relationship between shopping website's ethical performance and its perceived ethical performance. This moderating hypothesis was supported for education. This was consistent with prior studies which indicated that more educated consumers value more on ethical performance than less educated consumers [36][37]. For religiosity and gender, their moderating effects were not supported. However, it can be seen from the process of MRA analysis that they were significantly correlated with the dependent variable. So they might be simply independent predictors rather than the moderators. Similar reason could explain why H6 and H7 were not supported: web experience and individual trust propensity are simply independent predictors of consumers' trust (trusting belief and trusting intention) instead of the moderators of the relationship between shopping website's perceived ethical performance and consumers' trust.

CONCLUSION

This study made an important contribution to explore the effect of shopping website's ethical performance on online trust that can be served as a strategic weapon for the web vendors to overcome the barrier to the EC success. This study employed the simulated website to conduct an experiment for testing the proposed hypotheses derived from the research framework. A total of 238 valid responses were collected by the questionnaire in the last phase of the experiment from the research subjects with adequate online shopping experience. The data were analyzed for validating the hypothesized relationships and the results can be summarized in three points. First, the shopping website's ethical performance is found to be significantly correlated to consumers' perception of it. This means that consumers can differentiate good ethical sites from poor ethical sites and also proves that there was appropriate manipulation in the study. Second, the hypothesized relationships among shopping website's perceived ethical performance, trusting belief, and trusting intention were also validated. That is, the shopping website's perceived ethical performance may bring consumers' trust in the website. In addition to the reconfirmation of the relationship of trusting belief leading to trusting intention, it is also noted that trusting belief mediates the relationship between the shopping website's perceived ethical performance and trusting intention. Third, among the anticipated moderating effects of consumer characteristics, only the education is found to be a significant moderator of the relationship between the shopping website's ethical performance and consumers' perception. However, both religiosity and gender are significantly correlated with shopping website's ethical performance perceived by consumers, and web experience and individual trust propensity are respectively correlated with trusting belief and trusting intention. So they may be simply independent predictors rather than the moderators.

Following are managerial implications for web vendors who wish to build a going-concern and successful business on the Internet. First, the shopping website can build consumer trust through effective ethical strategy and good performance. This study provides evidence for the effect of shopping website's ethical performance on consumer trust that can be applied in EC. In a competitive EC market in which websites share the same

TABLE 7: Summary of hypotheses testing

| Hypotheses | Result |
|--|---------------------|
| H1 Shopping website's ethical performance is positively related to its ethical performance perceived by consumers. | Supported |
| H2 Shopping website's perceived ethical performance is positively related to consumers' trusting belief in the site. | Supported |
| H3 Shopping website's perceived ethical performance is positively related to consumers' trusting intention in the site. | Supported |
| H4 Trusting belief is positively related to trusting intention. | Supported |
| H5 Consumers' characteristics such as religiosity, education and gender may moderate the relationship between shopping website's ethical performance and its ethical performance perceived by consumers. | Partially Supported |
| H6 Consumers' characteristics such as web experience and individual trust propensity may moderate the relationship between shopping website's perceived ethical performance and consumers' trusting belief in the site. | Not Supported |
| H7 Consumers' characteristics such as web experience and individual trust propensity may moderate the relationship between shopping website's perceived ethical performance and consumers' trusting intention in the site. | Not Supported |

attributes, if a website can refrain from immoral conduct, this website may be able to differentiate itself from competitors by its pro-social behavior, thereby enhancing consumers' trust. The ethical strategy may guide the website to operate ethically, aligned with the corporate strategy and EC strategy, and be perceived by consumers to have good ethical performance that brings consumer trust [33]. Effective ethical strategy with matching plans and actions is very crucial to establish the website's ethical image and leads to strong consumer trust. Second, online ethics is an important issue for the EC success that no vendors can ignore. Since trust is an important aspect of the EC, the antecedents of trust are the prime concern for the web vendors [15][28]. Based on the finding of this study that higher online ethical performance will increase consumer trust, the web vendor shall consider the key components of online ethics (privacy, accuracy, property, and business ethics) to convey a sense of trustworthiness of the website. It suggests that the web vendor shall utilize these factors to enhance the website's ethical performance, such as: states clearly and explicitly the privacy policy in the website, discloses information about the website clearly and truthfully, tells consumers how their information will be used or processed, performs good business ethics (e.g. does public welfare, conducts ethical practices), and sells only legal products, etc.

This study suggests a number of opportunities for further research. In addition to those relate directly to overcoming the study limitations mentioned in the research methods section, there are several directions to consider. First, the role of consumer characteristics in the consumer perception of shopping website's ethical performance can be further studied. In this study, only education is found to have mediation effect on the relationship between shopping website's ethical performance and the consumer's perception. No empirical support was found for the moderation effects of gender and religion. Those could be examined further. Moreover, researchers could also consider the effect of personal characteristic variables such as cognitive style, and consumer's personal values such as ethical ideology that may affect the consumer's ethical perception [4][11][35]. Second, this study does not consider the concept of risk in the framework. According to Lee and Turban [21], the concept of trust is related to the concept of risk and an understanding of trust that does not examine its relationship with risk may be incomplete. That can be an opportunity to reexamine the research framework. In addition, the current study did not directly measure consumer behavior; therefore researchers could also incorporate trust-related behavior into their research model. Third, future research can focus on the longitudinal aspects of the shopping website's ethical performance because it needs a long-term observation to analyze or diagnose the ethical performance. Such kind of researches will be very important because the results can serve as a tool for the website's self-improving ethical performance or as an index to compare the ethical performances of competitive websites.

REFERENCE

- [1] Bhattacharjee, A., "Individual Trust in Online Firms: Scale Development and Initial Test," *Journal of Management Information Systems* (19:1), 2002, 211-241.
- [2] Carrigan, M., and Attalla A., "The Myth of the Ethical Consumer — Do Ethics Matter in Purchase Behaviour?" *Journal of Consumer Marketing* (18:7), 2001, 560-577.
- [3] Chen, K., and Rea, A.L., "Protecting Personal Information Online: A Survey of User Privacy Concerns and Control Techniques", *Journal of Computer Information Systems* (44:4), 2004, 85-92.
- [4] Cheung, C. M.K., and Lee, M.K.O., "Understanding Consumer Trust in Internet Shopping: A Multidisciplinary Approach," *Journal of the American Society for Information Science and Technology* (57:4), 2006, 479-492.
- [5] Chow, W.S. and O, Angie, N.K., "A study of trust in e-shopping before and after first-hand experience is gained," *Journal of Computer Information Systems* (46:4), 2006, 125-130.
- [6] Conger, S., Loch, K.D., and Helft, B.L., "Ethics and Information Technology Use: A Factor Analysis of Attitudes to Computer Use," *Information Systems Journal* (5:3), 1995, 161-184.
- [7] Creyer, E.H., and Ross, W.T., "The Influence of Firm Behavior on Purchase Intention: Do Consumers Really Care About Business Ethics?" *Journal of Consumer Marketing* (14:6), 1997, 421-432.
- [8] Ellis, T.S., and Griffith, D., "The Evaluation of IT Ethical Scenarios Using a Multidimensional Scale," *The DATA BASE for Advances in Information Systems* (32:1), 2001, 75-85.
- [9] Ferrell, O.C. and Hirt, G., *Business: A Changing World (4ed)*, NY: McGraw-Hill, 2003.
- [10] Fornell, C. and Larcker, D.F., "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research* (28), 1981, 39-50.
- [11] Freeman, L.A., and Peace, A.G., *Information Ethics: Privacy and Intellectual Property*, Hershey: Idea Group Inc., 2005.
- [12] Friedman, B., Kahn, P.H. Jr., and Howe, D.C., "Trust Online," *Communications of the ACM* (43:12), 2000, 34-40.
- [13] Gefen, D., "E-commerce: The Role of Familiarity and Trust," *Omega* (28), 2000, 725-737.
- [14] Gefen, D., Straub, D.W., and Boudreau, M.C., "Structural Equation Modeling and Regression: Guidelines for Research Practice," *Communications of the Association for Information Systems* (4:7), 2000, 1-79.
- [15] Gefen, D., Karahanna, E., and Straub, D.W., "Trust and TAM in Online Shopping: An Integrated Model," *MIS Quarterly* (27:1), 2003, 51-90.
- [16] Hair, J.F., Anderson, R.E., Tatham, R.L., and Black, W.C., *Multivariate Data Analysis (5ed)*, N J: Prentice-Hall, 1998.
- [17] Hoffman, D.L., and Novak, T.P., "A New Marketing Paradigm for Electronic Commerce," *The Information Society* (13:1), 1997, 43-54.
- [18] Jackson, J.H., Miller, R.L., and Miller, S.G., *Business and Society Today Managing Social Issues*, USA: West Publishing Company, 1997.
- [19] Keeney, R.L., "The value of Internet commerce to the customer," *Management Science* (45:4), 1999, 533-542.
- [20] Kracher, B., and Corritore, C.L. (), "Is There a Special E-commerce Ethics?" *Business Ethics Quarterly*, (14:1), 2004, 71-94.
- [21] Lee, M.K.O., and Turban, E., "A Trust Model for Consumer Internet Shopping," *International Journal of Electronic Commerce*, (6:1), 2001, 75-91
- [22] Lee, S.M., Park, S.H., Yoon, S.N. and Yeon, S.J., "RFID Based Ubiquitous Commerce and Consumer Trust,"

- Industrial Management & Data Systems*, (107:5), 2007, 605-617.
- [23] Marks, L.J., and Mayo, M.A., "An Empirical Test of a Model of Consumer Ethical Dilemmas," *Advances in Consumer Research* (18), 1991, 720-728.
- [24] Mason, R.O., "Four Ethical Issues of the Information Age," *MIS Quarterly* (10:1), 1986, 5-12.
- [25] Mayer, R.C., Davis, J.H., and Schoorman, F.D., "An Integrative Model of Organizational Trust," *Academy of Management Review* (20:3), 1995, 709-734.
- [26] McKnight, D.H., and Chervany, N.L., "What Trust Means in E-Commerce Customer Relationships: An Interdisciplinary Conceptual Typology," *International Journal of Electronic Commerce* (6:2), 2001, 35-59.
- [27] McKnight, D.H., Choudhury, V., and Kacmar, C., "Developing and Validating Trust Measures for E-Commerce: An Integrative Typology," *Information Systems Research* (13:3), 2002, 334-361.
- [28] Peslak, A.R., "PAPA revisited: A current empirical study of the Mason framework," *Journal of Computer Information Systems* (46:3), 2006, 117-123.
- [29] Radin, T.J., Calkins, M., and Predmore, C., "New Challenges to Old Problems: Building Trust In E-marketing," *Business and Society Review* (112:1), 2007, 73-98.
- [30] Ranganathan, C. and Grandon, E., "An exploratory examination of factors affecting online sales," *Journal of Computer Information Systems* (42:3), 2002, 87-93.
- [31] Raymond, L. and Bergeron, F., "Enabling the Business Strategy of SMEs through e-Business Capabilities: A Strategic Alignment Perspective," *Industrial Management & Data Systems* (108:5), 2008, 577-595.
- [32] Rivard, S., and Huff, S.L., "Factors of Success for End-user Computing," *Communication of the ACM* (5), 1988, 552-561.
- [33] Ryker, R., Lafleur, E., McManis, B., and Cox, K.C., "Online privacy policies: An assessment of the fortune E-50," *Journal of Computer Information Systems* (42:4), 2002, 15-20.
- [34] Sharma, S., Durand, R.M., and Gur-Arie, O., "Identification and Analysis of Moderator Variables," *Journal of Marketing Research* (18), 1981, 291-300.
- [35] Steenhaut, S., and Van Kenhove, P., "An Empirical Investigation of the Relationships among a Consumer's Personal Values, Ethical Ideology and Ethical Beliefs," *Journal of Business Ethics* (64:2), 2006, 137-155.
- [36] Turban, E., King, D., McKay, J., Marshall, P., Lee, J., and Viehland, D., *Electronic Commerce 2008: A Managerial Perspective*, U.S.: Pearson Prentice Hall, 2008.
- [37] Vitell, S. J., Singhapakdi, A., and Thomas, J., "Consumer Ethics: An Application and Empirical Testing of the Hunt-Vitell Theory of Ethics," *Journal of Consumer Marketing* (18:2), 2001, 153-178.
- [38] Wakefield, R.J., Stocks, M.H., and Wilder, W.M., "The role of website characteristics in initial trust formation," *Journal of Computer Information Systems* (45:1), 2004, 94-103.
- [39] Wu, C.F., and Wu, W.K., "Ethical Issues in Electronic Commerce: A Study of Travel Websites in Taiwan," *Journal of Technology Management* (11:1), 2006, 63-94.
- [40] Yoon, S.J., "The Antecedents and Consequences of Trust in Online-Purchase Decisions," *Journal of Interactive Marketing* (16:2), 2002, 47-63.
-