

## **The Effect of Customers' Trust on e-Commerce: A Survey of Indonesian Customer B to C Transactions**

Ainur Rofiq  
Faculty of Economics  
University of Brawijaya  
Malang, Indonesia  
Email: rofiq@brawijaya.ac.id

Joseph M Mula  
Faculty of Business  
University of Southern Queensland  
Toowoomba, Queensland  
Email: mula@usq.edu.au

### **Abstract**

*This study aims at analyzing the effect of vendor's ability, benevolence, and integrity toward e-Commerce customers' trust. This study makes use of Indonesia e-Commerce users as research samples while using Likert scale questionnaire for data collection. Furthermore, the questionnaires are sent to as many as 198 respondents through the mailing list. For data analysis method this research uses Structural Equation Model (SEM). Out of three predictor variables (ability, benevolence, and integrity), it is only vendor's integrity that has positive and significant effect on Indonesian customers' trust.*

### **Keywords:**

e-Commerce, trust, ability, benevolence, integrity, Indonesia

### **INTRODUCTION**

The use of internet for business transactions is known as electronic commerce (e-Commerce). This kind of business transaction pattern is applicable not only between company and company (B2B) but also between company and individual customer (Corbit et al. 2003; Laudon and Laudon 2000; McLeod and Schell 2004). Nevertheless, it is obvious that e-Commerce is vulnerable to crime as committed by the third party. Fraud, carding, illegal money transfer from one's account and the like are the clear examples of such crimes especially when its security system is still imperfect. For that reason, the security system of e-Commerce infrastructure is important to consider for further investigation for computer and informatics scientists (Ferraro 1998; Liddy and Sturgeon 1988; Udo 2001)

According to Meyer et al. (1995) the trust, the primary component in the business transaction, is actually built on the following basis, namely ability, benevolence, and integrity. These three closely related aspects take important role in forming the trust that someone has to believe in media, transaction and commitment as offered in e-Commerce.

Indonesia as one of the developing countries in the world has some significant differences in practicing e-Commerce when compared to other modern countries in terms of the regulation, law and customers' attitude. With regard to Indonesia's newly implemented e-Commerce, the customers' trust in conducting online transaction becomes interesting phenomena to look into in particular study.

### **LITERATURE REVIEW**

#### **e-Commerce**

e-Commerce refers to selling and buying either goods or service through the internet (Ferraro 1998). Anyone can make use of e-Commerce with another party regardless space and time. World Wide Web (WWW) is the most popular media in e-Commerce activities. The endless improvement of internet service offered by e-Commerce

web system is likely to bring about great impacts on the level of sale and customers satisfaction (Aberg and Shahmehri 2000).

## Trust

Trust is a foundation in conducting business activities. Broadly speaking, business transactions between two parties or more can only occur if they trust each other. Like a catalyst, trust serves to smoothen satisfactory transactions as expected by those parties (Yousafzai et al. 2003). Many disciplines have their own definitions about trust (Mukherjee and Nath 2003) especially in the field of psychology in the early periods. However, later trust draws the attention of other sciences (Kim and Tadisina 2003; Murphy and Blessinger 2003; Riegelsberger et al. 2003), including the object of interest in e-Commerce. In this case, trust is defined as the trait of believing in reliability of others who will fulfill all of the obligations as expected.

## The Dimensions of Trust

According to Meyer et al. (1995) there were three factors that give influence on the formation of trust, that is, ability, benevolence, and integrity.

- Ability

Ability refers to the competency and characteristics of the sellers or organizations in influencing and authorizing a certain specific area, including how they provide, serve and keep goods and service safe from being interfered by third parties. Kim et al. (2003) stated that ability consists of competence, experience, legal institution, and knowledge. For this study, it is hypothesized that:

**Hypothesis 1:** Vendors' ability has a direct positive influence on the trust of Indonesian e-Commerce customers.

- Benevolence

Benevolence refers to how much the sellers wholeheartedly are willing to give beneficial goods and service to their customers and themselves. As such, they can not only increase profit sale but also improve their customers' satisfactory level. Furthermore Kim et al. (2003) said that benevolence consists of attention, empathy, belief and acceptance. So, it is therefore hypothesized that:

**Hypothesis 2:** Vendors' benevolence has a direct positive influence on the trust of Indonesian e-Commerce customers.

- Integrity

Integrity is related to sellers' attitude and habit in running their business. Kim et al. (2003) stated that the integrity can be seemed from the following perspectives such as fairness, fulfillment, loyalty, honesty, dependability, and reliability. Therefore, it is hypothesized that:

**Hypothesis 3:** Vendors' integrity has a direct positive influence on the trust of Indonesian e-Commerce customers.

## RESEARCH DESIGN AND METHODOLOGY

### Population, Sample, and Sampling Technique

The population of this research includes the entire number of Indonesian internet users who get involved in e-Commerce transactions via the internet. In fact, such data are reported to be unavailable so far. For that reason, the sampling technique purposively selected in this research is non-probability sampling (Cooper and Schindler 2003; Sekaran 1992). With this technique sample size is determined according to Structural Equation Model (SEM) covering about 100-200 samples (Hair et al. 1998). In this research about 236 are previously made the respondents, and then out of this total number only 198 respondents can be regarded to have met the criteria of the proper samples.

### Instrument and Data Collection Method

Questionnaire is the primary instruments used in this research. Data collection is carried out by the following methods: (1) the library research and (2) the field research. During the survey questionnaires were sent to some *mailing-list* (a group of discussion in the internet). Some previous researches using the same method were done by Corbit et al. (2003), Mukherjee and Nath (2003), Ridings et al. (2002), and Tung et al. (2001). After filling in the questionnaires, respondents send them back to the researchers' email address.

### Data Analysis

All variables were rated on a five-point Likert scale from strongly agrees to strongly disagree. Confirmatory factor analysis was used for testing the goodness-of-fit of the data set. To assess of the impact of ability, benevolence and integrity on trust, structural equation modeling (AMOS) was employed. The structural model of the variables measured in this study is below:

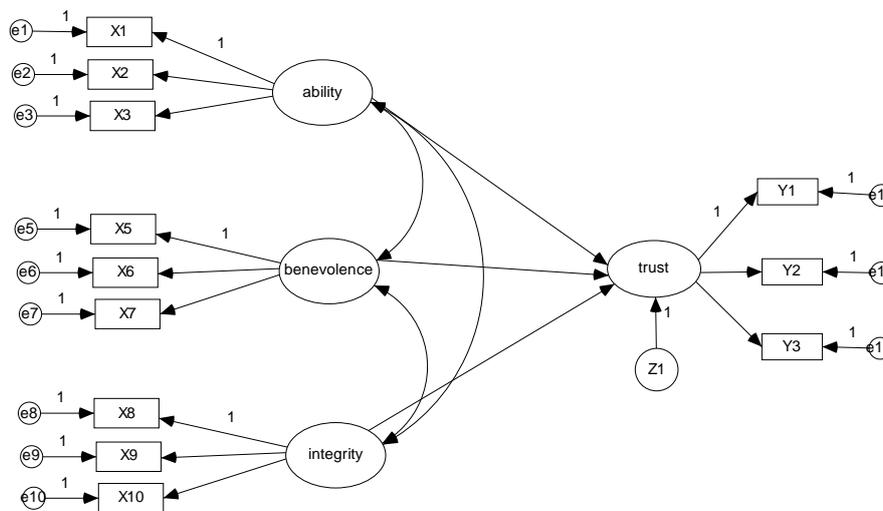


Figure 1: Structural Model of the Variables Studied

## RESULTS

### Validity Test

Valid indicators building a construct can be seen through its loading factor value. A model can be said to be fit if its loading factor value is more than 0.50.

Table 1. The Loading Factor Indicator Values after being Re-Estimated

Construct	Indicator	Code	Loading Factor
Ability	Competence	X1	0.53
	Experience	X2	0.69
	Knowledge	X3	0.61
Benevolence	Attention	X5	0.87
	Willingness to Share	X6	0.90
	Expectancy	X7	0.95
Integrity	Fulfillment	X8	0.55
	Honesty	X9	0.67
	Reliability	X10	0.68
Trust	Convenience	Y1	0.77
	Satisfaction	Y2	0.82
	Responsibility	Y3	0.56

### Reliability Test

Table 2. Construct Reliability Values in every Construct

Construct	<i>Construct Reliability</i>	Remark
Ability	0.64	Acceptable
Benevolence	0.93	Good
Integrity	0.67	Acceptable
Trust	0.76	Acceptable

Based on the table above, no construct reliability value is below 0.60. For that reason, all constructs are considered adequate to be used in the model.

### Goodness and Fit Criteria for Further Evaluation

With regard to the evaluation on data normality, such factors as outlier, multicollinearity and singularity, goodness of fit criteria indices, and causality test have fulfilled the conditions of SEM.

Table 3. The Estimation Results of Goodness of Fit Indices

Criteria	Model	Critical Value	Remarks
Chi-Square	85.028	Small	Good
Probability	0.329	$\geq 0.05$	Good
RMSEA	0.020	$\leq 0.08$	Good
GFI	0.934	$\geq 0.90$	Good
AGFI	0.902	$\geq 0.90$	Good
CMIN/DF	1.063	$\leq 2.00$	Good
TLI	0.992	$\geq 0.95$	Good
CFI	0.994	$\geq 0.95$	Good

### Hypothesis Test

The results of hypothesis test are described as follows

Table 4. The Results of Hypothesis Test

Hypothesis	Independent	Dependent	Coefficient (P-value)	Remark
H1	Ability	Trust	0.027 (0.796)	Not significant
H2	Benevolence	Trust	0.153 (0.095)	Not significant
H3	Integrity	Trust	0.518 (0.000)	Significant

## DISCUSSION

### The Background of the Respondents

The sample is dominated by male respondents. The fact that females seem to be less participative in e-Commerce than their male counterparts could be closely related to their nature of being cautious in conducting business across the net (Kolsaker and Payne 2002). Moreover, e-Commerce is basically business transactions via an imaginary world and hence is prone to fraud.

Regarding age, the most dominant group of age respondents involved in the use of e-Commerce is from 26 to 35 years old. In addition, the smallest age group is below 18. Respondents with undergraduate degree can be said to be the most dominant users of e-Commerce and the lowest are people with doctorate degrees. It is obvious that occupation also serves as an important factor in decision making processes. In addition to occupation, the majority of Indonesian e-Commerce customers work in private companies. While seen from an income perspective, people with income from 2.5 to 5 million rupiahs (about US\$ 243 to 486) are the dominant group of e-Commerce users.

### The Use of the Internet by the Respondents

That someone puts his trust in a particular media greatly depends on how long he interacts with such media. The research findings affirm that the longer people interact with the internet, the more positive they respond to such media for transactions. This finding is compatible with Fishbein and Ajzen's theory of reasoned action (TRA) (as cited in Song and Zahedi 2003) where about 47% of Indonesian e-Commerce users have been interacting with the internet for more than four years.

### **The Vendors' Abilities and e-Commerce Customers' Trust**

The research finding affirms that vendors' abilities have a direct positive influence on Indonesian e-Commerce customers although it is not significant. This finding is different from that of Aubert and Kelsey (2000) who finds that the ability variable has significant positive influence on the trust variable. In fact, this difference can be attributed to Indonesian cultural and philosophical backgrounds that are likely to influence local people's attitudes. This research finding shows that especially for Indonesian respondents vendors' abilities are not solely the most important factor to engender trust in many transactions through e-Commerce.

### **The Vendors' Benevolence and e-Commerce Customers' Trust**

Our research finding shows that vendors' benevolence variable has a direct positive influence on Indonesian e-Commerce customers. This finding contradicts that of Aubert and Kelsey (2000) who found otherwise. Nevertheless, both this research and Aubert and Kelsey's find that the benevolence variable insignificantly influences the trust variable.

Like the ability variable, despite the fact that benevolence has positive influence on trust, these influences are not significant and hence benevolence is no longer important to Indonesian e-Commerce customers.

### **The Vendors' Integrity and e-Commerce Customers' Trust**

Another research finding shows that vendor's integrity variable has a significant and direct positive influence on Indonesian e-Commerce customers. This finding is in accord with that of Aubert and Kelsey (2000).

In other words, the higher vendor's integrity the more people put their trust in a vendor. Based on this finding, the integrity variable becomes the most important aspect to consider for Indonesian e-Commerce customers especially in building their trust in suppliers.

### **Recommendation for e-Commerce Businesses**

Amid all variables investigated in this research, only the vendors' integrity variable has positive and significant influence on trust. Based on this finding, it is recommended that e-Commerce businesses in Indonesia need to consider the following aspects:

- to give fair and open information to customers as for example product specification, price, after sales service, etc;
- to maintain the reputation of vendors by for example prompt delivery, to follow up of complaints, etc;
- to provide customers with a user friendly interface for making transactions;
- to offer satisfactory service to customers in transactions by for example delivering what was promised; and
- to provide the best possible security for every transaction with customers.

### **LIMITATIONS**

This research has some limitations as it did not include all variables of trust and participation as proposed by previous researchers. Although sample size has met the requirement for SEM, a larger sample is still needed to make generalizations. In addition, this study was located in Indonesia which is still in the development stage of use of e-Commerce.

### **DIRECTIONS FOR FUTURE RESEARCH**

In order to enrich the model proposed in this research, it is recommended that other researchers include more variables or indicators of trust. In so doing, the results may improve and the conclusion gained might vary. Besides that, future research should enlarge the sample so that the results become more representative and hence can be generalized, especially if studies are undertaken in other countries.

## REFERENCES

- Aberg, J., and Shahmehri, N. 2000. "The Role of Human Web Assistants in E-Commerce: an Analysis and a Usability Study," *Internet Research: Electronic Networking Applications and Policy* (10:2), pp 114-125.
- Aubert, B.A., and Kelsey, B.L. 2000. "The Illusion of Trust and Performance," *Scientific Series of Cirano* (3), pp 1-13.
- Cooper, D.R., and Schindler, P.S. 2003. *Business Research Methods*. Eight Edition. NY: McGraw-Hill/Irwin.
- Corbit, B.J., Thanasankit, T., and Yi, H. 2003. "Trust and E-commerce: a Study of Consumer Perceptions," *Electronic Commerce Research and Application* (2), pp 203-215.
- Ferraro, A. 1998. "Electronic Commerce: The Issues and Challenges to Creating Trust and a Positive Image in Consumer Sales on the World Wide Web," *First Monday: Peer-Reviewed Journal on The Internet* (3:6). Retrieved 18 May, 2005, from [http://www.firstmonday.org/issues/issue3\\_6/ferraro/index.html](http://www.firstmonday.org/issues/issue3_6/ferraro/index.html).
- Hair, Jr., J.F., Anderson, R. E., Tatham, R.L. and Black, W.C. 1998. *Multivariate Data Analysis*. Fifth Edition. NJ: Prentice-Hall.
- Kim, E., and Tadisina, S. 2003. "Customer's Initial Trust in E-Business: How to Measure Customer's Initial Trust," *Proceedings of Ninth Americas Conference on Information Systems*, pp 35-41.
- Kim, D. J., Ferrin, D. L., and Rao, H. R. 2003. "Antecedents of Consumer Trust in B-to-C Electronic Commerce," *Proceedings of Ninth Americas Conference on Information Systems*, pp 157-167.
- Kolsaker, A. and Payne, C. 2002. "Engendering Trust in E-Commerce: a Study of Gender-based Concerns," *Marketing Intelligence & Planning* (20:4), pp 206-214.
- Laudon, K.C., and Laudon, J.P. 2000. *Management Information Systems: Organization and Technology in the Networked Enterprise*. Sixth Edition. NJ: Prentice-Hall International.
- Liddy, C. and Sturgeon, A. 1988. "Seamless Secured Transactions," *Information Management & Computer Security* (6:1), pp 21-27.
- Mayer, R.C., Davis, J. H., and Schoorman, F. D. 1995. "An Integratif Model of Organizational Trust," *Academy of Management Review* (30:3), pp 709-734.
- McLeod, R and Schell, G. P. 2004. *Management Information Systems*. Ninth Edition. NJ: Pearson Education.
- Mukherjee, A., and Nath, P. 2003. "A Model of Trust in Online Relationship Banking," *International Journal of Bank Marketing* (21:1), pp 5-15.
- Murphy, G. B. and Blessinger, A. A. 2003. "Perceptions of No-name Recognition Business to Consumer E-Commerce Trustworthiness: The Effectiveness of Potential Influence Tactics," *Journal of High Technology Management Research* (14), pp 71-92.
- Ridings, C. M., Gefen, D., and Arinze, B. 2002. "Some Antecedents and Effect of Trust in Virtual Communities," *Journal of Strategic Information Systems* (11), pp 271-295.
- Riegelsberger, J., Sasse, M. A., and McCarthy, J. D. 2003. "The Resercher's Dilemma: Evaluating Trust in Computer-Mediated Communication," *International Journal of Human-Computer Studies* (58), pp 759-781.
- Sekaran, U., 1992. *Research Methods for Business, a Skill-Building Approach*. Second Edition. Canada: John Wiley & Sons.
- Song, J. and Zahedi, F. M., 2003. *Exploring Web Customers' Trust Formation in Infomediaries*, Proceeding of Twenty Fourth International Conference on Information Systems, pp. 549-562.
- Tung, L. L., Tan, P. L. J., Chia, P. J. T., Koh, Y. L., and Yeo, H. L. 2001. "An Empirical Investigation of Virtual Communities and Trust," *Proceedings of Twenty-Second International Conference on Information Systems*, pp. 307-319.
- Udo, G. J. 2001. "Privacy and Security Concerns as Major Barriers for E-Commerce: a Survey Study," *Information Management & Computer Security* (9:4), pp 165-174.
- Yousafzai, S. Y., Pallister, J. G., and Foxall, G. R. 2003. "A Proposed Model of E-Trust for Electronic Banking," *Technovation* (23), pp 847-860.

## **COPYRIGHTS**

[Ainur Rofiq, Joseph M Mula] © 2009. The authors assign to ACIS and educational and non-profit institutions a non-exclusive licence to use this document for personal use and in courses of instruction provided that the article is used in full and this copyright statement is reproduced. The authors also grant a non-exclusive licence to ACIS to publish this document in full in the Conference Papers and Proceedings. Those documents may be published on the World Wide Web, CD-ROM, in printed form, and on mirror sites on the World Wide Web. Any other usage is prohibited without the express permission of the authors.