



Antecedents of Trust and Its Impact on Loyalty: An Empirical Study on E-Commerce's Customer in Surabaya

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ABSTRACT

This research aimed to analyze the factors that affect e-commerce customer loyalty in Surabaya. Stages of analysis include 1) analyze the effect of ability, communications and vendor integrity variables on trust (trust) e-commerce customers in Surabaya, 2) analyze the effect of ability, communication and vendor integrity variables on the level of e-commerce customer loyalty in Surabaya and 3) analyze the influence of the trust variable on the level of e-commerce customer loyalty in Surabaya. This research was conducted by taking sampling of e-commerce users in Surabaya. The main instrument of data collection was in the form of questionnaire measured in Likert scale. Questionnaires were sent to respondents through mailing lists and interviews. Total respondents were 122 and the data was analyzed using Structural Equation Model (SEM). The result shows that communication and integrity have no significant effect on trust. Furthermore ability and integrity directly have no significant effect on loyalty. Communication and trust directly effect loyalty. Thus, communication and customer trust to vendor have an important influence on e-commerce customer loyalty in Surabaya.

Keywords: *Loyalty, Trust, Ability, Communication, Integrity*

1. INTRODUCTION

The development of informational technology, telecommunication, and internet has caused the emergence of internet based business applicability. One of the applications that attract public attention is online commerce. The use of internet for business transaction activity is known as Electronic Commerce or e-commerce [20]. The characteristic of e-commerce is the transaction between two sides, as an exchange of trade, service, information in which internet is the main media in transaction process. In its practice, the e-commerce transaction can happen between business organization and business organization (B2B) and business organization and customer (B2C) [16, 3, 20].

A separation between vendor and customer has made the e-commerce a unique one. Uniquely, there is no physical interaction between customer and vendor. The customer trust is an important thing to vendor [21]. The relationship to trust one another between customer and vendor has a purpose to promote the products sold by vendor and to build customer loyalty to vendor.

E-commerce gives advantages to customers and online vendor. For customer, e-commerce offers easiness and speed in doing buying transaction. For vendor, e-commerce is a cheap solution for an infrastructure development than opening a showroom. Concerning with e-commerce activity, survey conducted by Synovate Indonesia in 2008 stated that only 16% of 2, 5 million internet users had done online transaction.

The increasing number of internet user is expected to influence the society behaviour in buying product/service from conventional purchase to e-commerce. Nowadays, the numbers of e-shops in

Indonesia has reached more than 40 which sell many products such as books, computers, hand-phones, handicraft and t-shirt. In 2000, it was noted that the e-commerce transaction amount in Indonesia was US\$ 100 millions while the world's transaction reached US\$ 390 billions. It meant that the e-commerce transaction amount in Indonesia was still about 0,026% from the world's e-commerce transaction amount. According to [18] study, since the number of internet user in Indonesia has increased, it is predicted that the volume and e-commerce transaction amount can be increased.

Opening business through online transaction is not getting the customer free from the crime as if having a conventional one. If the e-commerce infrastructure security is weak, some crime potentials such as fraud, credit card piracy, illegal fund transfer, etc can happen to the customers. Since then, the e-commerce infrastructure security had become a serious and important discussion to computer and informatics expert [13, 20].

Cyber/internet fraud in any kind, not only in Indonesia but also in other part of the world, has still become a threat for the continuity of e-commerce. According to research conducted in 2001 (Clear Commerce.com), Indonesia was in the 2nd rank after Ukraine of cyber fraud executor. Around 20% of total credit card transaction via internet in Indonesia was categorized in fraud. That research had surveyed 1,137 online shops, 6 million transactions, and 40 thousands customers.

According to [3] research, it was noted that the increasing participant number of e-commerce directly related to the experience using web, market orientation, and trust. [21] noted that customer commitment in using e-



commerce directly related to shared value (ethics, security, and privacy) and trust.

Risk in e-commerce [28] could be eliminated by creating good communication between two sides of transaction doer which is through relevant information presentation. Relevant information presentation can avoid the existence of asymmetrical information which is often used by other side to conduct crime in internet (cyber crime). Through effective communication, customers can get security guarantee in doing transaction so that can increase their participations in e-commerce.

Any buildings of e-commerce system must still have risk potentials [22, 3, 11, 21]. From many factors which influence e-commerce transactions, trust factor still becomes the key factor. Only customers with trust are daring to transact via internet media.

There are three main factors which are needed to build and maintain trust, specifically: 1) customer satisfaction, 2) supplier reputation and good will, 3) third party recognition. Based on the buying objective, e-commerce customers can be categorized into: 1) individual customers (perform purchase for their individual or household consumption needs), 2) organizational customers (perform purchase in order to resell, re rent, and reprocess, reuse to serve the society, and other business or organization objectives).

This type of organizational customer is commonly shopped via internet. Meanwhile, based on the buying type, customer can be categorized into 4 kinds: 1) impulsive buyers (customer who quickly buy product); 2) patient buyers (customers who buy product after doing some comparison on price, suppliers, product model, and other aspects); 3) analytical buyers (customers who conduct specific research before making decision to buy specific product or service); 4) window shoppers (customers who only browse).

The behaviour of e-business customer types above reflects the specific online shopping experience. The experience can be in a form of valuable experience (doing or performing browsing) and valueless experience (only browsing). In marketing context, the two experiences are known as utilitarian shopping experience and hedonic shopping experience.

The internet customer behaviour is much more complex compared to the offline customer behaviour. The internet customer satisfaction, for example, is influenced by the diversity factors such as logistics support, customer service, the attraction of price determination, website store front. All of these are decided from some elements such as security (privacy and transaction security); system reliability; operation speed; application easiness; content and quality (such as format, reliability, completeness and time accuracy).

[2, 21] after conducted comprehensively literature review have found that customer trust in internet are affected by ability, integrity, and communication. The trust built by the online vendor is expected to deliver customer loyal behaviour (e-loyalty) to the online vendor. Loyal customers are important for the continuity of

business life [23]. Many companies use defensive marketing strategy to increase market share and profitability by maximizing customer's retention [29].

E-commerce is an activity of selling and buying product or service through internet facility. E-commerce can be done by anybody with his business partner without time and space boundary. In the e-commerce activity, there is a meaning of relation between seller and buyer. It is a transaction among business doers and internal process which supports transaction with company [10]. Indeed, e-commerce has changed the way company perform its business [17, 4]. The popular media in e-commerce activity is World Wide Web (www). However, continuous improvement related with service provided by the e-commerce web system will have big influence to the level of selling and customer satisfaction [1].

Factors which can be a booster of e-commerce implementation [5] are: 1) globalization and liberalization of trade, 2) tight competition, 3) technology development, 4) elimination of objective physically 5) publicity. While, the inhibitors are investment, technique, organization, and network. The result of literature and empirical review show that problems which can be identified involved with e-commerce cost and benefit are: finance and sales, purchase, comfort and information, and administration and communication [6].

For the benefit side, by using e-commerce, customer can conduct transaction freely especially in choosing and comparing product/service which will be bought in some vendors. Customer can get the right product/service, not only for the price but also for the feature. Meanwhile, the cost side is concerning with some aspects: security, customers' knowledge, and the availability of internet infrastructure. Since then, as the technology of e-commerce infrastructure has been developed, the cost dealt by the customer can be reduced.

E-commerce is categorized into two segments: business to business (B2B) and business to customer (B2C). B2B e-commerce is a commerce transaction via internet which is conducted by two or more companies. Meanwhile, B2C e-commerce is a buying and selling transaction via internet between seller and buyer (end user). B2B transaction relatively involves less people. People involved in B2B transaction are usually trained using informational system and used to deal with business process influenced by transaction. There is less quantity transaction but it has higher transaction amount [20]. Transaction of B2B is conducted in a form electronic data interchange (EDI). This transaction is usually done by supplier/vendor.

Fundamentally, B2C transaction has a different design with B2B [27]. B2C transaction customers probably have or do not have ability using informational technology. However, the e-commerce web for B2C needs must be equipped with guideline or help for customers in trouble [20]. If compared to B2B, the B2C quantity transaction is bigger, but its transaction amount is less than the B2B's one.

2. LITERATURE REVIEW

2.1 Trust

Business transaction between two sides or more can happen if each side trusts each other. Trust cannot be admitted easily by other side/business partner; it must be built from the beginning and can be proved. Trust is considered as the catalyst in any transactions between seller and buyer so that the customer satisfaction can be performed as expected [32].

Some literatures have defined trust with some approaches [21]. In the beginning, trust has been discussed from psychological approach since it has related with someone's attitude. Then, trust has been all science discipline's discussion [24, 11], as well as in e-commerce.

According to [32], there are at least six definitions relevant with e-commerce application. The identified results from many literature as follows: 1) [19] defines that trust is someone's will to be sensitive with other's action based on the hope that other will perform specified action to person who trusts him, without depending on his ability to supervise and control him. 2) [7] defines that trust is a will to make himself sensitive to the action taken by his trusted person based on the trust and responsibility. 3) [22] defines that trust is an appraisal of somebody's relation with other who performs specified transaction based on his trusted person expectancy in an uncertainty environment.

Based on some definitions above, it can be stated that trust is a form of specified side's trust to other side in performing transaction relation based on a confidence that his trusted person will fulfil all of his duty well as expected.

2.2 Ability

Ability refers to the competency and characteristics of seller/organization in influencing and authorizing specific area on how sellers are able to supply, serve, and secure transaction from other side's disturbance. It means that customers can get guarantee of satisfaction and security from the seller who performs transaction. [12] states that ability covers competency, experience, institutional affirmation, and ability in knowledge.

2.3 Communication

Anderson and Narus [21] stated that communication can be defined as meaningful and punctual information share officially and unofficially. Research conducted by [8] had mentioned that there was communication between human and machine, or at least there was a trust that electronic system had social characteristics in building trust of online customer. The higher social communication level presented by website vendor, the bigger its influence to the customer trust and it can increase the probability of customer performing online transaction [21].

By the time the website can enhance its social communication which covers openness, speed of response, it can influence the site ability to fulfil the internet user's needs [21].

2.4 Integrity

Integrity deals with how behaviour or habit of sellers is performed in his business. It is not only about whether the information given to the customer is appropriate with the fact or not but also about the quality of product sold by the seller can be trusted or not. [12] stated that integrity can be seen from fairness, fulfilment, honesty, dependability, and reliability.

2.5 Customer Loyalty

Customer loyalty is customer intention to reuse something based on his experience and expectancy in the past. In e-commerce context, customer loyalty is measured from the number of customers performing transaction [12]. Customer's loyalty is decided from the trust of partner, media or other that are involved in an activity.

E-commerce customer loyalty will grow well if seller is able to maintain trust given by the customer. When the customer feels that seller has kept well the given trust, the customer will be loyal. In fact in some circumstances, customer will invite or tell his partner to join in such activity.

Based on the theory of reasoned action (TRA), it can be concluded that trust will form someone's attitude. Then, it will influence someone's intention and behaviour. According to the theory, someone's trust to the e-commerce media can influence the intensity performing rebuying using that media.

2.6 Conceptual Model and Hypothesis

Based on the given formulated problem, literature review, the conceptual model of this research is explained as:

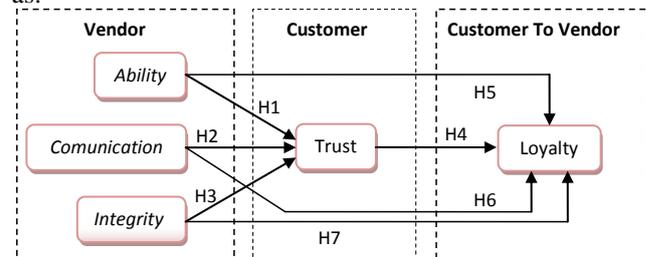


Figure 1: Conceptual Model of This Research

From the conceptual model, the research hypothesis can be developed as follow:

- H1: The bigger vendor ability then the bigger e-commerce customer trust.
- H2: The more effective communication then the bigger e-commerce customer trust.



- H3: The higher vendor integrity then the bigger e-commerce customer trust.
- H4: The higher trust to vendor then the higher e-commerce customer loyalty.
- H5: The bigger vendor ability then the higher e-commerce customer loyalty.
- H6: The more effective communication to vendor then the higher e-commerce customer loyalty.
- H7: The higher integrity to vendor then the higher e-commerce customer loyalty.

3. PROPOSED DESIGN

Population in this research was all internet users in Surabaya who had conducted e-commerce transaction through internet. So far, there was no accurate data which could mention the amount of e-commerce user in Surabaya. Because of that, the population size in this research was not known so that the sampling technique used was categorized into non-probability sampling [25].

Based on the characteristics of needed sampling which was the e-commerce users in Surabaya who had conducted e-commerce transaction for the past five months, the chosen non probability sampling technique was judgmental one (purposive). It was chosen to ensure that only sample with specified element decided by the researchers will be taken as sample.

Sample is element of population chosen to represent the population in research. In this research, the size of sample was adjusted with the model of analysis used which was Structural Equation Model (SEM). Related with that, the sample size for SEM that use the model of maximum likelihood estimation (MLE) is 100-200 samples, or 5-10 times estimated parameter [9]. In fact, there were 145 respondents of 200 who had returned the questionnaires in 2-month research. After being evaluated there were only 122 respondents that could be processed. The rest did not respond full answers.

4. RESULT

It could be seen from the determinant number of sample covariance matrix: $14.305.080 > 0$, it indicated that there was no multicollinearity or singularity in this data so the assumptions were fulfilled. By then, the scale of regression coefficient of each factor could be trusted as seen as in the result of causality test in Table 1 below.

Table 1. The Test of Causality Hypothesis

Factor	↔ Factor	Ustd Estimate	Std Estimate	Prob.
Trust	↔ Ability	0,033	0,092	0,945
Trust	↔ Integrity	0,037	0,104	0,654
Trust	↔ Communication	0,253	0,101	0,693
Loyalty	↔ Trust	0,723	0,892	0,040
Loyalty	↔ Communication	0,486	0,644	0,050
Loyalty	↔ Integrity	0,047	0,178	0,818
Loyalty	↔ Ability	0,429	0,231	0,321
Significance Limit				≤ 0,05

5. DISCUSSION

5.1 Vendor Ability and Customer Trust

The result reveals that bigger vendor ability does not influence the e-commerce customer trust. However, the factor of ability has the biggest influence to loyalty. The factors which can cause ability has no influence to trust, explained below: 1) Inability of vendor to send product ordered by the customer in punctual time so that the customer often feels disappointed. There is less coordination between vendor and the product delivery service that sacrifice customer's importance. That is because the vendor's existence is not known by the service. 2) Inability of vendor to give security feeling while the customer performs online transaction, there is an issue of card theft (carding), deflection of online transaction by hacker which have weakened the trust of e-commerce customers in Surabaya to online vendor (e-commerce). Indonesia was in the 6th biggest world rank or 4th Asia rank in cyber crime. It is a warning to all sides to be alert against the existing crime, and will be performed by the informational technology users. 3) The implementation of ITE Law that does not give fair protection to the victim of cyber crime. Inability of law enforcement to chase cyber criminals gives contribution to the e-commerce customer in Surabaya in eliminating e-commerce transaction. 4) Vendor cannot fulfil the expectancy of customer while performing online shopping. Some vendors still give high price. Nevertheless, poor service is given when he asks for price. Unsatisfying answer from vendor has made the e-commerce user in customer choose to shop offline even though he must spend money for transportation.

This finding does not correspond with [2] in which ability positively gives influence to trust. It means that the ability owned by the vendor, to e-commerce customer in Surabaya, is not an important variable that can be in growing trust to vendor. This different finding from the previous researcher could be caused by the possibility of different culture and philosophy which can cause different view to specified value.

5.2 Vendor Integrity and Customer Trust

The result shows that higher vendor integrity does not give positive impact to the e-commerce customer trust in Surabaya. Factors that cause integrity does not positively affect trust, as follows: 1) Customer feels unsatisfied about products offered by vendor such as: bad product quality, limited product quantity, and no other product choice. Customer is directed to one of product which is actually unwanted. 2) The delivered product is not suitable with the existing specification on the website catalogue, misproduct and broken after being delivered.

This finding does not support the finding of [2] which stated that integrity has positive impact to trust. Based on the above finding, it means that integrity factor is not importantly considered by e-commerce respondents



in Surabaya in building trust toward e-commerce supplier vendor.

5.3 Vendor Communication and Customer Trust

Research shows that more effective communication with vendor does not bring positive effect to trust. Factors which cause the failure of positive effect communication to trust, as follows: 1) Vendor speed in responding customers complaint magnificently effects the increase of online vendor sale. Vendor who gives less response to customer, sooner or later will be left by customer. 2) Vendor is not being frank on customer's right and does not give up-to-date information about products offered by customer. He often feels disappointed while communicating with vendor as he does not need customer.

This finding corresponds with finding of [26] that reveals how communication does not affect trust. It means that vendor communication variable is not an important variable to be considered by e-commerce user respondent in Surabaya.

5.4 Trust and Customer Loyalty

Research shows that higher trust is followed with higher e-commerce user loyalty in Surabaya. This finding supports how [30] found out that trust built by vendor gave more positive spirit to internet community members in recommending other members not to feel risky while transacting via e-commerce.

Member who has experienced more involvement in e-commerce will have lower feeling toward transacting online risk if compared to member with less involvement. [30] concluded that trust was an important factor in recommending transaction through on-line. Trust is evidenced can increase e-commerce customer loyalty. The loyalty can be seen in indicator of continuity/customer loyalty in transacting. [7] reveals that trust has positive influence to e-commerce customer loyalty.

Research conducted by [3] also showed the same thing. Trust was an important factor to be considered in e-commerce loyalty. Besides, research of [21] has found that trust brings positive influence to customer commitment which is a reflection of loyalty. Other research conducted by [13, 14, 15] also show indifferent results. Trust has positively influenced intentions as an indicator of loyalty construct. Finding of [14] also reveals that trust has strong influence to purchase intention compared to other variables.

As any previous researches, for e-commerce user respondent in Surabaya, trust is a variable which was really considered in achieving level of loyalty in e-commerce transaction. The higher trust is owned by customer, the higher level of e-commerce loyalty will be.

5.5 Vendor Communication and Customer Loyalty

This research reveals that more effective communication with vendor is followed with the increase

of e-commerce customer loyalty in Surabaya. The speed of vendor responding to customer complaint really affects the increase sale of online vendor. Vendor who does not give good response to customer sooner or later will be left by customer.

This finding corresponds with Gefen and Straub (2004) on how customer-vendor communication has influenced the purchase intention which has been an indicator of loyalty construct. Vendor communication variable in this research has been an important variable for e-commerce respondent in Surabaya in order to increase loyalty.

5.6 Vendor Integrity and Customer Loyalty

This research has found that the increasing vendor integrity do not relate with higher loyalty of e-commerce customer in Surabaya. The reasons which cause the two variables fail to relate are: 1) Many respondents feel unsatisfied about product offered by the vendor, the product quality is bad, the product quantity is limited and there is no other product choice given, customer is directed to one of unwanted product. 2) The delivered product is inappropriate with the specification on website catalogue, missproduct, and broken when it is accepted by the customer.

5.7 Vendor Ability and Customer Loyalty

The result reveals that vendor ability does not influence the level of e-commerce customer loyalty in Surabaya. This finding goes along with Gefen and Straub (2004) on how ability does not influence the purchase intention which is one of loyalty indicator. These are reasons to explain: 1) Vendor is not able to give the feeling of security and comfort to customer who transacts via e-commerce. 2) It takes some time for the product to be accepted by the customer. 3) There is less coordination between vendor and the product delivery service; there is no check and recheck after the product is given to the delivery service. 4) Customer is not given clear information that his product is sent by specified product delivery service.

6. CONCLUSIONS

Based on the test result of the proposed hypothesis and discussion, it can be concluded that: 1) Customer Trust to vendor gives significant contribution to e-commerce Customer Loyalty. This means the higher the Customer Trust to vendors, the greater e-commerce Customer Loyalty in Surabaya. 2) Communication between vendor and customer gives significant contribution to e-commerce Customer Loyalty. In other words, the better Communication between vendor and the customer, the greater would be e-commerce Customer Loyalty in Surabaya. 3) Vendor Ability gives insignificant contribution to e-commerce customer loyalty. That is, change to the Vendor Ability does not make a dramatic change in line with e-commerce Customer Loyalty in



Surabaya. Similarly, the relationship between 4) Integrity with e-commerce customer loyalty in Surabaya. 5) Communication with e-commerce Customer Trust, 6) Vendor Ability to e-commerce Customer Trust, and 7) Integrity with e-commerce Customer Trust, in Surabaya.

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