INCREASING THE CUSTOMER LOYALTY IN E-COMMERCE BY USING GAMIFICATION STRATEGY: CASE STUDY FOR INDONESIA CUSTOMERS

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Abstract—E-commerce is still has potential market especially in Asia-Pacific. As the emerging market, Asia-Pacific is becoming the largest in E-commerce market because their large populations become first time online buyers. Indonesia took the second highest B2C E-commerce growth in the world. It caused a tough competition between local and international e-commerce companies and to keep customers loyalty become a challenge for the e-commerce industries in Indonesia. The purpose of this study is to find out the relation between application of gamification strategy and customer satisfaction and loyalty in e-commerce. There are 3 main variables in this study: innovation orientation (gamification), e-satisfaction, and e-loyalty. A Likert scale survey was conducted to internet users in Indonesia who bought something from internet. The results from this study indicate a positive relationship between innovation orientation (gamification) and e-satisfaction. There is also positive relationship between e-satisfaction and e-loyalty, innovation orientation and e-loyalty, and indirect effect between innovation orientation and e-loyalty through e-satisfaction. Finally, e-commerce companies can consider this strategy to increase their customer’s loyalty.

Keywords—e-commerce, e-loyalty, e-satisfaction, gamification, Indonesia, innovation orientation

I. INTRODUCTION
Electronic Commerce or known as E-commerce is still has potential market. Based on Table 1-1, total B2C E-commerce global market will increase by 20.1% or equal to $1.500 trillion. And for the first time in 2014, Asia-Pacific increase their purchase on E-commerce and defeat North America. It makes Asia-Pacific become the largest regional for E-commerce market.

As the emerging market, Asia-Pacific is becoming the largest E-commerce market because of their large populations become first time online buyers. China, Indonesia, and India are the 3 countries that will increase E-commerce transactions and will push Asia-Pacific’s growth ahead.

Indonesia took the second highest B2C E-commerce growth in the world and as a growing country, Indonesia’s rapidly gain the penetration of internet usage. In the fact, this condition will give an opportunity for some companies to sell their products and services online. With total population of more than 230 million people, Indonesia has begun to seen by some startups companies and established rivals such as eBay, Rakuten, and Lazada. The statistical data, e-commerce transactions were worth between US$1 billion and US$2 billion in 2013. It’s only some small amount if compared with total retail sales but the value is already increased more than tripled in the past 2 years.

Due to those conditions, the competition will become very tough because there will be many competitors from local or international companies entered to Indonesia’s e-commerce market. To keep customers more loyal with the company becomes the challenge for the e-commerce industries. Many researchers were introduced some methods to keep and
maintain customers loyalty. According to Park and Kim (2003) [1], E-loyalty is an important issue in online purchasing and E-commerce. Safa and Ismail (2013) [2] also said E-satisfaction and E-trust have important effect with E-loyalty. In other research, E-satisfaction had the greatest impact on E-loyalty (Ergün & Kuşcu, 2013) [3].

On the other hand, the innovation factor sometimes is not become the main issue in the previous research. Some researchers try to consider about technology factor in their loyalty model, but still not specific on innovation. Lee, Choi, and Kang (2009) [4] tried to consider quality of system, service and information as basis of E-satisfaction. Customer interface quality based on system customization, interactivity and convenience also were discussed (Chang & Chen, 2008) [5].

Narver, Slater, and MacLachlan (2004) [6] were written about innovation orientation as an effected factor to new-product success and it has been used as considering factor in E-loyalty model by Ergün and Küşcu (2013). Other researches show the positive relation between innovativeness and firm performance. According to these facts, innovation factor eligible for consideration in this research related to E-loyalty model and only focus with implementing gamification strategy as the example of innovation in e-commerce.

Gamification can be interpreted as the combination between services and game elements. Gamification has been widely applied in marketing. Over 70% of Forbes Global 2000 companies surveyed in 2013 said they planned to use gamification for the purposes of marketing and customer retention. One of the example is Foursquare, a location based service company that allowed users to collect badges when they do check-in on Foursquare apps.

In this research, gamification is used as an influence factor in e-loyalty model. Specifically, gamification as a part of innovation and e-satisfaction are used to combine the influence results with e-loyalty.

II. LITERATURE REVIEW

A) Relationship Between Innovation Orientation and E-Satisfaction

In previous study about hotel services, the empirical results show a significant moderating effect between service innovation and customer satisfaction (Weng, Ha, Wang, & Tsai, 2012) [7]. Weng, et al. (2012) in their study, propose 3 hypotheses: Customer Value Has a Positive Effect on Customer Satisfaction (H1), Service Innovation Has a Positive Effect on Customer Satisfaction (H2), and Service Innovation has a significant moderating effect between Customer Value and Customer Satisfaction (H3).

The study resulted the expected relationship between customer value and customer satisfaction show a positive and strong correlation \( \beta = 0.461, p < 0.05 \). There also a positive relationship between service innovation and customer satisfaction \( \beta = 0.328, p < 0.05 \). Lastly, service innovation has significant moderating effect between customer value and customer satisfaction \( \beta = 0.207, p < 0.05 \). All hypotheses are supported.

This study also relevant with study from Vang and Zellner (2005) [8], they recommended hotel industry to constantly improve their service innovation as a way to enhance the facilities, product value, and service value in pursuit of higher customer satisfaction.

On the other side, Simon and Yaya (2012) [9] said the double interaction between “process innovation” and “organization innovation” was haven’t positive effect with customer satisfaction. Moreover, better use of the systems, system performance, internal cohesion, and marketing innovation are positively and have significant effect on satisfaction.

Other opinion from Narver, Slater, and MacLachlan (2004) suggested to combine innovation orientation with proactive market orientation where innovation orientation can give greater emphasis on company capabilities and proactive market orientation can give greater emphasis on customer needs. Moreover, proactive market orientation is significantly related with new product success and neither for innovation orientation. This study has three objectives: to develop a valid measure of the proactive market orientation construct, to refine the construct of responsive market orientation, and to examine the empirical relationships between responsive and proactive market orientation and new product success.

There are 5 variables in the conceptual model consist of responsive market orientation (MORTN),
innovation orientation (INNOV), bureaucratic organizational form (BUR), and new product success (NEWPROD).

B) Relationship Between E-Satisfaction and E-Loyalty

On the previous study about loyalty model, Safa and Ismail (2013) founded there is quite strong positive relationship between E-Satisfaction and E-Loyalty in e-commerce industries. In their study, also found technological factors and customer factors have strong relationship with E-satisfaction and organizational factors play important role in E-trust. Safa and Ismail in their study show some factors that influence E-satisfaction and E-trust. There are some factors that influence E-satisfaction and E-trust such as technology factors, organization factors, and customer factors.

There are eight hypotheses in the study from Safa and Ismail: technological factors have a positive effect on E-customer satisfaction (H1), technological factors have a positive effect on E-customer trust (H2), organizational factors have a positive effect on E-customer satisfaction (H3), organizational factors have a positive effect on E-customer trust (H4), customer factors have a positive effect on E-customer satisfaction (H5), customer factors have a positive effect on E-customer trust (H6), customer E-satisfaction has a positive effect on customer E-loyalty (H7), and customer E-trust has a positive effect on customer E-loyalty (H8).

In other study by Oliver (1999) [10] also founded that satisfaction is an essential ingredient for loyalty. Other opinion from Lin and Sun (2009), placed e-satisfaction as an influence mediator between technology acceptance and website service quality towards customer e-loyalty. In their study, there are 7 hypotheses: when a shopping website’s technology acceptance factors are enhanced, customer e-satisfaction increases (H1), when a shopping website’s technology acceptance factors are enhanced, customer e-loyalty increases (H2), when shopping website service quality is raised, customer e-satisfaction increases (H3), when shopping website service quality is raised, customer e-loyalty increases (H4), when the specific holdup cost paid by the online shopping customer is raised, e-loyalty increases (H6), and lastly when the customer’s e-satisfaction is raised, e-loyalty increases (H7).

There is also positive and significant relationship between satisfaction and repurchase loyalty mediated by involvement (Tuu & Olsen, 2010) [11]. The results also shown involvement is moderates positively with satisfaction and repurchase loyalty. In their study, there are 7 hypotheses: satisfaction has a positive association with repurchase loyalty (H1), involvement has a positive association with satisfaction, a positive association with repurchase loyalty and a role as a mediator for a positive indirect effect of satisfaction on repurchase loyalty (H2), involvement moderates positively the satisfaction-repurchase loyalty relationship (H3), ambivalence has a negative association with satisfaction and a negative association with repurchase loyalty (H4), ambivalence moderates negatively the satisfaction-repurchase loyalty relationship (H5), ambivalence has a negative association with involvement (H6), and ambivalence moderates negatively the satisfaction-involvement relationship but moderates positively the involvement-repurchase loyalty relationship (H7).

C) Relationship Between Innovation Orientation, E-Satisfaction, and E-Loyalty

In manufacturing industries, Hussain and Munir (2012) [12] said about innovation in Fast-Moving Consumer Good’s (FMCG) has direct relationship with customer satisfaction, customer loyalty, quality enhancement, pricing, and customer’s perception. There are 4 variables in their research consist of innovation, customer satisfaction, customer loyalty, and customer retention.

Their used stratified random sampling (probability model) for acquiring the samples from different cities in Pakistan. The reliability test is using Cronbach’s Alpha and for the data analysis is using one-sample statistics. Technology factors also has positive effect with e-satisfaction and e-loyalty and play the important role in satisfaction (Safa & Ismail, 2013).

In other study, Ergün and Kuşçu (2013) said proactive market orientation and innovation orientation
have positive impact on e-loyalty only if customers feel convenience in shopping with these orientations and innovation orientation become insignificant effect to e-loyalty without perceived usefulness. In addition, e-satisfaction has a great impact on e-loyalty and proactive market orientation have direct positive relationship with e-loyalty.

In the study by Ergün and Kuşcu, there are 2 hypotheses: market and innovation orientation have an impact on e-loyalty (H1), and market and innovation accompanied with perceived usefulness and e-satisfaction have impact on loyalty.

The primary data comes from online and offline questionnaire with target respondents are online shopping customers and at least shopping for two times a year. Total number for valid questionnaire was 376 respondents. Factor analysis, Bartlett’s Test, and KMO test are used to measure the reliability from the questionnaire and for data analysis was used hierarchical regression analysis and multiple regression to see the relationships between dependent and independent variables.

III. METHODOLOGY

In this research, a conceptual model was formed. The conceptual model comes from the literature review and hypotheses those already explained in the previous chapter. The conceptual model also was formed from the previous e-loyalty model by Ergün and Kuşcu (2013) with adjustment.

Variable perceived usefulness was eliminated from the model because on the previous study, innovation orientation become insignificant effect to e-loyalty without perceived usefulness. For that reason, this research want to explore more independently the effect of innovation and loyalty in case of Indonesia customers. The other variables: responsive market orientation and proactive market orientation are the independent variables and don’t have any significant effect with innovation variable. So, those variables also eliminated from the model because this research only want to focus with the effect of innovation orientation variable.

![Figure 1 Conceptual Research e-Loyalty Model](image)

A) Innovation Orientation

Innovation must be involve in a business including learn and track what customer needs, development of new products or services, and development and implementation of enhanced internal processes with the intention of attains and sustains leadership in its target markets (Narver et al., 2004). According to Jiménez-Jimenez, Valle, and Hernandez-Espallardo (2008) [13], both theory and empirical research suggest that there is a positive relation between innovativeness and firm performance.

B) E-Satisfaction

E-Satisfaction means the evaluation of the reaction or feeling of a customer in relation to his/her experience with all aspects of an e-commerce system (such as informational, transactional and service and support) put in place by an organization to market its products and services.

C) E-Loyalty

Anderson and Srinivasan (2003) [14] define e-loyalty as the customer’s favorable attitude toward an electronic business resulting in repeat buying behavior. Kim et al. (2009) also define e-loyalty as a customer’s positive and desired view to an e-business, which leads to repurchase behavior.

D) Hypotheses

Based on the conceptual model (Figure 1), this study proposes the following hypotheses:

- **H1: Innovation orientation has a positive effect on E-Satisfaction**

- **H2: E-Satisfaction has a positive effect on E-Loyalty**

E) Sample Size

Before calculating sample size that will be used in this research, some factors about the population need to be determine first:
Population Size. In this research, the population is the people in Indonesia who use the internet for shopping. Based on statistics data from publication article titled “Indonesia economy: E-commerce is growing rapidly, but will hit familiar hurdles” (EIU ViewsWire, 2014), people in Indonesia who use the internet for shopping are less than 7% from total internet users in Indonesia or approximately 5,740,000 people (total internet users in Indonesia: 82 million based on data from Indonesia Ministry of Telecommunication and Information – May, 2014).

This research use 8% margin of error, 95% confidence interval with Z score is 1.96, and 0.5 standard deviation.

To calculate how much the sample size needed, there is mathematical equation:

\[
Sample\ \text{Size} = \left(\frac{(Z\ \text{Score})^2 \times \text{StdDev}}{1 - \text{StdDev}}\right) \times \frac{1}{(\text{Margin\ of\ Error})^2}
\]

By inserting all values (Z score = 1.96, StdDev = 0.5, Margin of Error = 0.08) to the equation, will got the sample size needed in this research is 150 people.

F) Data Source

The data used in this research is gathered from questionnaire that were distributed via online website from 08 July 2014 – 28 September 2014. The questionnaire’s respondents are internet users in Indonesia who bought something from internet. A total of 150 respondents were collected and only 127 respondents are valid to use in this research. The respondents were asked their rating about gamification, satisfaction, and loyalty in e-commerce. The ratings level used Likert Scale from 1 (totally disagree) to 5 (totally agree). Since the gamification concept and definition is hard to understand for common people, a short video to show about gamification was created and the respondents are asked to watch the video first before fill the questionnaire. The video can be accessed on https://www.youtube.com/watch?v=tHbgCRWm3Wc.

G) Variables

From the conceptual model, there are 3 variables are used in this research. The variables are Innovation Orientation, E-Satisfaction, and E-Loyalty. Dependent Variable in this research is E-Loyalty, Independent Variable is Innovation Orientation and E-Satisfaction as an Intervening Variable or also called as Mediating Variable or Intermediary Variable between Innovation Orientation and E-Loyalty.

IV. RESULTS AND DATA ANALYSIS

A) Characteristics of Respondents

This section provides information about respondent’s characteristics from online questionnaire and collected from 08 July 2014 until 28 September 2014. The respondents from this questionnaire are internet users in Indonesia who bought something from internet. Total 150 respondents were collected and only 127 respondents are valid for further analysis.

The majority of the respondents were male (57.48%) and more than half of the respondents were aged between 21-24 years old (54.33%). For education level, most of the respondents were studied on undergraduate degree (68.50%). Most of respondents were having higher income with more than Rp. 5,000,000 (35.43%) per month. Finally, most of the respondents were purchase something from the internet 2-4 times a year (33.07%).

B) Frequency Test

Chi-Square tests between sex and all variables in this study shown that all variables don’t have any correlation with sex because all chi-square values are less than chi-square value on table (9.488). Also all Asymp. Sig. are greater than 0.05, means all variables don’t have significant relationship with sex.

Chi-Square tests between age and all variables in this study shown that only variable LOYAL2 is greater than chi-square value on table (30.270 > 26.296). This is mean variable LOYAL2 have correlation with age. And for Asymp. Sig. value, also only variable LOYAL2 is less than 0.05, mean variable LOYAL2 have significant relationship with age. Chi-Square tests between education and all variables in this study shown.
that all variables don’t have any correlation with education because all chi-square values are less than chi-square value on table (21.026). Also all Asymp. Sig. are greater than 0.05, means all variables don’t have significant relationship with education.

Chi-Square tests between salary and all variables in this study shown that all variables don’t have any correlation with salary because all chi-square values are less than chi-square value on table (31.410). Also all Asymp. Sig. are greater than 0.05, means all variables don’t have significant relationship with salary.

C) Factor Analysis and Reliability Test

The results for innovation orientation variable show that all items have KMO value 0.637, significant value 0.000, MSA value greater than 0.5, component matrix greater than 0.5 and Cronbach’s alpha (α) value is 0.724. It means all items can be accepted.

The results for E-Satisfaction variable show that all items have KMO value 0.688, significant value 0.000, MSA value greater than 0.5, component matrix greater than 0.5 and Cronbach’s alpha (α) value is 0.754. It means all items can be accepted.

The results for E-Loyalty variable show that all items have KMO value 0.717, significant value 0.000, MSA value greater than 0.5, component matrix greater than 0.5 and Cronbach’s alpha (α) value is 0.819. It means all items can be accepted.

D) Regression Analysis

Regression analysis is used to explore the relationships between dependent and independent variables. The essential criteria are that R square is greater than 0.1, p value is less than 0.05, F value is greater than 4 (depend on Degree of Freedom).

Before do the regression analysis, dimension reduction using varimax rotation was used to reduce the items for each variables to become one. After this process, there will be 3 new variables that will be used in regression analysis.

Based on the result from Table 1, the innovation orientation has a significant effect with e-satisfaction \((R^2 = 0.333, \ p < 0.001, \ F = 62.426)\). Since the probability of the F-statistic has a p-value of 0.000, the relationship between independent and dependent variable is in concordance.

H1: Innovation orientation has a positive effect on E-Satisfaction

<table>
<thead>
<tr>
<th>Table 1 Result of Regression Analysis for H1</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
</tr>
<tr>
<td>R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Adjusted R Square</td>
</tr>
<tr>
<td>F Value</td>
</tr>
<tr>
<td>P Value</td>
</tr>
<tr>
<td>Beta</td>
</tr>
</tbody>
</table>

Note: *p<0.05 **p<0.01 ***p<0.001

Based on the result from Table 2, e-satisfaction has a significant effect with e-loyalty \((R^2 = 0.246, \ p < 0.001, \ F = 40.704)\). Since the probability of the F-statistic has a p-value of 0.000, the relationship between independent and dependent variable is in concordance.

H2: E-Satisfaction has a positive effect on E-Loyalty

<table>
<thead>
<tr>
<th>Table 2 Result of Regression Analysis for H2</th>
</tr>
</thead>
<tbody>
<tr>
<td>H2</td>
</tr>
<tr>
<td>R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Adjusted R Square</td>
</tr>
<tr>
<td>F Value</td>
</tr>
<tr>
<td>P Value</td>
</tr>
<tr>
<td>Beta</td>
</tr>
</tbody>
</table>

Note: *p<0.05 **p<0.01 ***p<0.001

Based on the result from Table 3, innovation orientation has a significant effect with e-loyalty \((R^2 = 0.333, \ p < 0.001, \ F = 62.426)\). Since the probability of the F-statistic has a p-value of 0.000, the relationship between independent and dependent variable is in concordance.

H3: Innovation orientation has a positive effect on E-Loyalty
0.184, p < 0.001, F = 28.129). Since the probability of the F-statistic has a p-value of 0.000, the relationship between independent and dependent variable is in concordance.

**Table 3** Result of Regression Analysis for Variable Innovation to E-loyalty

<table>
<thead>
<tr>
<th></th>
<th>H3</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>0.422</td>
</tr>
<tr>
<td>R Square</td>
<td>0.184</td>
</tr>
<tr>
<td>Adjusted R Square</td>
<td>0.177</td>
</tr>
<tr>
<td>F Value</td>
<td>28.129</td>
</tr>
<tr>
<td>P Value</td>
<td>0.000***</td>
</tr>
<tr>
<td>Beta</td>
<td>0.429</td>
</tr>
</tbody>
</table>

Note: *p<0.05 **p<0.01 ***p<0.001

From the relationship of all variables based on the conceptual model, there is also an indirect effect between innovation and e-loyalty through e-satisfaction. Indirect effect was calculated by multiply R value from hypothesis H1 and H2.

0.577 \times 0.496

Innovation \rightarrow \text{Satisfaction} \rightarrow \text{Loyalty}

**Table 4** Indirect Effect to E-loyalty

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Innovation</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Effect</td>
<td>0.429</td>
<td>0.496</td>
</tr>
<tr>
<td>Indirect Effect</td>
<td>0.577*0.496</td>
<td>-</td>
</tr>
<tr>
<td>Total Effect</td>
<td>0.286</td>
<td>0.496</td>
</tr>
</tbody>
</table>

Based on Table 4, there is an indirect effect from innovation variable to e-loyalty through e-satisfaction (0.286).

V. CONCLUSION AND DISCUSSION

A) Research Conclusions

Based on research background and motivation, this study has resulted three objectives which are: 1) to find out the relation between application of gamification strategy and customer satisfaction and loyalty in e-commerce, 2) to introduce new innovation type on e-commerce area by using gamification strategy, 3) can be implemented by e-commerce companies to increased their customer experiences while shopping in their website.

Based on the analysis on the previous chapter, the result of hypotheses testing are summarized in Table 5.

**Table 5** Hypotheses and Result

<table>
<thead>
<tr>
<th>Item</th>
<th>Research Hypothesis</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Innovation orientation has a positive effect on E-Satisfaction</td>
<td>Supported</td>
</tr>
<tr>
<td>H2</td>
<td>E-Satisfaction has a positive effect on E-Loyalty</td>
<td>Supported</td>
</tr>
</tbody>
</table>

In conclusion, this study found that there is a positive relationship between innovation orientation and e-satisfaction. This study also found a positive relationship between e-satisfaction and e-loyalty, innovation orientation and e-loyalty, and also there is an indirect effect between innovation orientation and e-loyalty through e-satisfaction (0.286). It is mean, innovation orientation indirectly affected to e-loyalty. This study also shown the respondents are mostly in age 21-24 and still have low income between Rp. 1,000,000 - Rp. 2,000,000.

B) Suggestions and Implications

Based on the result from this study, there are some suggestions and implications. Innovation specially gamification in e-commerce positively have a relationship with e-satisfaction and e-loyalty, it is means the e-commerce companies in Indonesia may try to implemented gamification strategy (achievement concept) to their website in order to increased customers.
satisfaction and loyalty. With this implementation also can give implication to customers about what they can do with e-commerce website.

Implementation of gamification in e-commerce website can be achieved by some strategies such as:

- Collecting shopping points. Customers will get some points by register as a new member (initial/welcome points), giving a feedback or product review, share a webpage to social media, and buying a product. Customers can use their points to buy a product from the website (for example 1 point equal to Rp. 10,000).

- Membership level. Each month, total transactions for every customers will be reviewed and will automatically adjust their membership level. For example, there are 3 level: silver, gold, and platinum. Silver is for the customer who have transactions below Rp. 1,000,000; gold is for the customer who have transactions between Rp. 1,000,001 to Rp. 4,000,000; and platinum is for the customer who have transactions more than Rp. 4,000,001. The benefit from membership level is to get the additional discount.

The contribution for this research is to give a suggestion for e-commerce companies in Indonesia to consider about gamification implementation in their website to increased customer satisfaction and loyalty. Even though, there are many variables can be considered in order to maximizing customer satisfaction and loyalty such as marketing strategy, customer services, product quality, and payment options.

C) Limitation and Future Research

There are some limitations from this study. First, total valid respondents are only 127 respondents and it is not still not enough to represent the whole internet buyers in Indonesia. Secondly, the innovation orientation in this study only focused on gamification strategy. It would be better if the innovation orientation can be implemented in whole parts of e-commerce’s business process. The last, scope for gamification concept only included about achievements such as experience points, levelling, and bonuses.

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