

The Implementation of Expectation-Confirmation Model (ECM) in Analyzing the Relationship Between Gamification and Continuance Use Intention in Online Travel Industry

Juliana

Prodi Pengelolaan Perhotelan, Universitas Pelita Harapan, Indonesia
juliana.stpph@uph.edu

Imam Jayanto

Prodi Farmasi, Universitas Sam Ratulangi, Indonesia
imamjay_anto@unsrat.ac.id

Murwani Wulansari

Prodi Sistem Informasi, Universitas Bina Sarana Informatika, Indonesia
murwani.mwu@bsi.ac.id

Muhammad Hery Santoso

Prodi Komputerisasi Akuntansi, STMIK Widya Utama, Indonesia
muhhery@swu.ac.id

Tri Apriyono

Prodi Manajemen, STIE Jembatan Bulan, Indonesia
tri.apriyono19@gmail.com

Article's History:

Received 26 April 2023; Received in revised form 12 Mei 2023; Accepted 28 Mei 2023; Published 1 Juni 2023. All rights reserved to the Lembaga Otonom Lembaga Informasi dan Riset Indonesia (KITA INFO dan Riset).

Suggested Citation:

Juliana., Jayanto, I., Wulansari, M., Santoso, M. H., & Apriyono, T. (2023). The Implementation of Expectation-Confirmation Model (ECM) in Analyzing the Relationship Between Gamification and Continuance Use Intention in Online Travel Industry. JEMSI (Jurnal Ekonomi, Manajemen, Dan Akuntansi), 9 (3). 943 – 948. <https://doi.org/10.35870/jemsi.v9i3.1211>

Abstract:

Online Travel Agent or abbreviated as OTA is one form of technological development in the tourism industry. Competence in the OTA business is getting tougher, along with that each OTA provides different services. One of the trends to increase user loyalty is by implementing the concept of gamification into the system. This study aims to determine the gamification factors that have an influence on continuance use intention in OTA users. This research uses a quantitative approach with 300 respondents taken using purposive sampling. The data was analyzed using PLS-SEM with SmartPLS. The research model used is taken from the modified Expectation-Confirmation Model (ECM). The results of this study found that two out of twelve hypotheses were rejected. Based on the ten accepted hypotheses, it can be concluded that novelty, trendiness and intimacy of gamification have a positive influence on continuance use intention through hedonic value and utilitarian value variables.

Keywords: online travel agent, tourism industry, gamification, continuance use intention

Introduction

Internet-based information technology is undergoing significant development today. The internet is used by many people in various activities, especially tourism. The tourism industry gets a positive impact from the existence of internet technology that can increase the effectiveness of distribution channels. The tourism industry has an important role in improving a country's economy. E-commerce is one important example to advance the tourism industry, by providing online services for travel using only the internet. Users can choose a trip without any limitations between distance and time (Bhattacharjee, 2001).

In Indonesia, the tourism industry is growing very rapidly, the projected value of Indonesia's online travel transactions ranked first in 2019, and is expected to remain so until 2025. This is evidenced by the increasing number of online travel agents or abbreviated as OTAs that offer easy access to travel. Of course this will lead to competition among OTAs in Indonesia. To find out the intention of continuing users to use OTAs, it is necessary to understand more about Continuance Use Intention (CUI). CUI is a strong individual intention to buy goods repeatedly using financial mobile applications. Continuance intention can be chosen as a stage to be able to continue to maintain business and use the services or products of a particular organization again. Customers feel satisfaction from the quality provided by the system so that customers will intend to continue using the system. However, to be able to know the long-term continuity of user continuation intentions for the success of a system is difficult. One of the various ways that e-commerce is used is by implementing gamification. Points and coins are one example of a form of gamification in e-commerce that is popular today (Hsu & Chen, 2018).

Gamification is defined as the implementation of game parts into non-game forms. Games can make people who play them become interested and considered a fun activity through the achievement of rewards, points, ranks and leaders. Gamification applied to a marketplace or e-commerce must be done carefully, because considering the purpose of applying gamification elements is not only to make users feel the same as playing games but also to make users pay attention and explore marketing business activities that are being carried out by marketplaces or e-commerce such as harbonas, vouchers, events, special prices and discounts. Therefore, the gamification elements in the marketplace must be fun, interesting and provide space for marketing activities carried out by the marketplace (Hsu & Lin, 2015).

Research on gamification in OTAs on advanced user intentions is very limited. Previous research by Wang et al in made the mHealth application the subject of their research. Previous researcher state that gamification has a significant effect on user continuance intention where gamification services can increase motivation in using the mHealth application so as to encourage users to use the application again. However, previous research only measures motivation in mHealth applications with the psychological aspects of gamification elements combined with the ECM model. Previous research states that experience marketing in the gamification aspect has a significant effect on user satisfaction and loyalty in the online bookstore that is the subject of the study. However, the data used in previous research is data from respondents residing in Taiwan. Another social research by previous researchers examines gamification at marketplace which states that gamification at marketplace is rated well by respondents and visitors have a high intention to revisit marketplace. Previous research examines the effect of gamification in the learning process, which has a good impact on learning both behaviorally and affectively. So that students feel more interested, fun and affective. Previous research examines the effect of gamification variables with user satisfaction on the object of online travel agents with the result that gamification has a significant effect. International studies, namely Liao and Liu with E-Business App case studies state that gamification affects sustainability intentions on self-presentation, entertainment and self-efficacy variables. Meanwhile, for now there is still little research on the effect of gamification on OTAs on advanced user intentions in Indonesia (Jusuf, 2016).

The reason why developers and organizers should consider user experience factors is because it can be an evaluation for a business. Hedonic value and utilitarian value are important values in e-commerce. Meanwhile, according to the ECM model, there are three variables to explain and predict users' intention to continue using IT, namely satisfaction, perceived usefulness and confirmation. The satisfaction and perceived usefulness variables are the main variables for determining the continuance use intention of SI users. In previous research, the value of satisfaction and user satisfaction is an important key to the intention to continue using the system (Purwanto & Juliana, 2022). Customer satisfaction is an important requirement and need to improve customer satisfaction. Given this, implementing gamification is important for user continuance intention. This study aims to determine the important factors of gamification that affect continuance use intention of users of online travel agents.

Literature Review

Gamification is a method of thinking like a game and adding parts that exist in the game by involving users and users completing certain missions. Gamification is divided into two, namely gamification by content and gamification by structure. Gamification by content is gamification by adding a story or story in it, for example, such as gamification for learning media. While structural gamification only takes part in games such as leaderboards, levels, points, badges, rewards, and others. Structural gamification is usually used for applications that involve work processes. The parts in the game are called game mechanics. The aspects in the game can trigger special

emotions arising from the user that can provide the results that users need when using the gamification alone or together. User perception refers to the experience of playing with the technical concepts of the game. Existing aspects can create benefits consisting of interaction, intimacy, entertainment, trendiness, and novelty (Sutagana et al., 2022).

Perceived value is the overall value of the utility value of a product that customers feel based on the comparison between what is obtained and what is expected. The benefits obtained from perceived value are a mixture of elements that have physical attributes, service and technical support obtained from using the product. Utilitarian proposed by Zeithmal is not sufficient to understand the picture of product value made by consumers. This study uses two important basic values of perceived value, namely utilitarian value and hedonic value to determine the amount of customer perceived value of the marketplace (Tannady et al., 2022).

Travel agent or travel agent is a service provider that helps book tourist facilities and manages mail for travel. So that it can produce products in the form of hotel vouchers, tickets, services, and others. Travel agent is a service company that sells travel plans directly to the public such as specifically selling sea, air, land transportation, tourist services, travel insurance, lodging, and other products. Based on this understanding, it can be concluded that a travel agent is a company engaged in services that sell transportation services, services and facilities for tourist trips (Suyoto & Tannady, 2022).

OTA or what is called Online Travel Agent is an online reservation service that provides its activities through online. This type of travel agent provides online booking that users need to travel. This OTA is a trusted bridge and consultation for travel service companies in online promotion and increasing customer visits. Online travel agent is a type of travel agent where all transaction activities are carried out online. Based on this understanding, it can be concluded that an online travel agent is an online travel agent that serves all booking activities online (Tannady & Purnamaningsih, 2023).

OTA facilitates travel services from the beginning to the end of the trip with detailed costs. OTA can make it easier for customers, so customers don't need to think about how to transport their vehicles, where to live, and what tourist locations. Because this is a package if we order OTA. OTA will take care of the transportation used, a place to rest during the tour. Expectation Confirmation Model is a type of model created by Bhattacharjee. ECM is derived from EDT (Expectation Disconfirmation Theory) which was raised by Oliver. EDT suggests that the performance and expectations experienced by customers will affect satisfaction so that customers intend to repurchase after customers make a purchase (Wang et al., 2019).

EDT adapts cases that discuss IT products and services to continuance use. Bhattacharjee suggested several extensions and changes in the first EDT model. One of the suggestions regarding changes is replacing expectations with perceived usefulness. This change is on the grounds that the existing expectations in EDT are only centered on before use, while expectations after use, can change in the long run according to Bhattacharjee.

Methodology

This research uses a quantitative approach with 300 respondents taken using purposive sampling. The data was analyzed using PLS-SEM with SmartPLS. The research model used is taken from the modified Expectation-Confirmation Model (ECM). This study used a questionnaire to collect data, in this study also used a Likert scale. In this study using path analysis and also liner regression analysis for hypothesis testing. Before analyzing, the questionnaire was tested for validity and reliability first.

Results

Based on the results of the individual item reliability test, all indicators have an outer loading value above 0.750. So all indicators in this study can be retained. Based on the results of internal consistency reliability, the variables in this study have met the threshold value of 0.700. Then all the variables of this study have met the requirements. Based on the Convergent Validity test, each variable used in this study has met the 0.500 threshold. Therefore, the variables of this study have met the requirements. Based on the table of cross loading values in the discriminant validity test, it has the highest value between indicators and other variables when compared to the value between indicators and variables in other blocks, which is in accordance with the provisions. Based on the test, the correlation value between the construct variable and the construct variable itself is higher than the correlation between the construct variable and other construct variables. Then the variables that have met the requirements can proceed to the next testing stage.

The Path Coefficient test shows that there are two paths that have a value below the threshold, namely UV → CI and IN → HV. So, from these results it can be concluded that the Utilitarian Value (UV) variable does not have a significant effect on the Continuance Intention (CI) variable and the Interaction (IN) variable does not have a significant effect on Hedonic Value (HV). In the coefficient of determination test, it can be seen that CI, and HV, have values that can be categorized into the strong category. While SF and UV fall into the medium category. This shows that the variables HV, UV, and SF explain strongly (0.817) the variance of CI, as well as the variables HV and UV in the middle (0.708) the variance of SF. In addition, the variables IN, TD, IM, and NV explain strongly (0.773) the variance of HV, while the same variables IN, TD, IM, and NV alone can explain moderately (0.582) the variance of UV. In the coefficient of determination test, it can be seen that ten of the twelve hypotheses have t-test values above 1.960. However, there are two hypotheses that have below 1.960. Hypotheses that do not qualify are IN → HV and UV → CI. The t-test is used to determine whether or not there is an influence of the independent variable on the dependent. So, we can conclude that IN has no effect on HV, and UV has no effect on CI. Therefore, the hypothesis is rejected.

The results of the calculation of the f test, it can be seen that one path has a large influence, namely UV → SF, and SF → CI. There is one medium path, namely NV → UV. The rest such as IM → HV, IN → HV, TD → HV, NV → HV, IN → UV, TD → UV, HV → SF, HV → CI, and UV → CI have small paths. The results of the calculation of Q2 or predictive relevance, all endogenous variables have a Q2 value above the threshold value, which is 0. So it can be concluded that the variables in this research model have a predictive relationship with other variables. Meanwhile, the results of the relative impact calculation found that the UV → SF and SF → CI paths had a medium effect. While the other ten paths have a small influence.

Discussion

In the previous discussion of the measurement model analysis results, the proposed research model already has good reliability and validity values. This is indicated by the value of all indicators having an outer loading value above 0.700 with reliability and Cronbach's alpha above 0.700. In addition, all indicators in this study have an AVE value above 0.500 with cross loading and Fornell Larcker's which have requirements according to existing criteria.

In the structural analysis of the t-test results model, it was found that the H1 hypothesis, namely the relationship between the IN → HV variables, was rejected. This is because Interaction (IN) has no influence on Hedonic Value (HV). The path coefficient (β) value is 0.007, which means that the relationship between the IN → HV variables has no significant effect. Likewise, the f^2 and q^2 values have little effect. The same research was conducted by Hirschman and Holbrook, who said that there was no relationship between the interaction value and the hedonic value. Based on the research results, the researcher assumes that this condition is appropriate in the field, where users cannot interact with other users. So that users feel not entertained to use online travel agents which will affect further users. So it can be concluded that IN has no effect on HV.

In the structural analysis of the t-test results model, it is found that the H2 hypothesis, namely the relationship between the TD → HV variables, is accepted. This is because Trendiness (TD) has an influence on Hedonic Value (HV). The path coefficient (β) value is 0.301, which means that the relationship between the TD → HV variables has a significant positive effect. Likewise with the value of f^2 and q^2 which has a big influence. The same research was conducted by Hsu and Chen who said that the TD variable has an influence on HV. So it can be concluded that TD has an effect on HV. This shows that the higher the gamification trend relationship will increase the hedonic value obtained by users in gamification. Users can feel the trend of gamification obtained from hedonic value to users.

In the structural analysis of the model, the t-test results show that the H4 hypothesis, namely the relationship between the NV → HV variables, is accepted. This is because Novelty (NV) has an influence on Hedonic Value (HV). The path coefficient (β) value is 0.278, which means that the relationship between the NV → HV variables has a significant positive effect. Likewise with the value of f^2 and q^2 which has a big influence. The same research was conducted by Hsu and Chen who said that the NV variable has an influence on HV. Other studies also argue that users have a high feeling of NV at the beginning of using new technology. However, the feeling of NV will decrease after a while, as will the HV felt by users.

In the structural analysis of the model, the t-test results show that hypothesis H5, namely the relationship between the IN → UV variables, is accepted. This is because Interaction (IN) has an influence on Utilitarian Value (UV). The path coefficient (β) value is 0.219, which means that the relationship between the IN → UV variables has

a significant positive effect. Likewise with the value of f_2 and q_2 which has a big influence. The same research was conducted by Hsu and Chen who said that the IN variable has an influence on UV. This shows that the higher the gamification trend relationship will increase the utilitarian value obtained by users on gamification. Users can feel the trend of gamification obtained from hedonic value to users. So it can be concluded that IN has an effect on UV. In the structural analysis of the t-test results model, it is found that the H6 hypothesis, namely the relationship between TD → UV variables, is accepted. This is because Trendiness (TD) has an influence on Utilitarian Value (UV). The path coefficient (β) value is 0.339, which means that the relationship between the TD → UV variables has a significant positive effect. Likewise with the value of f_2 and q_2 which has a big influence. The same research was conducted by Hsu and Chen who said that the TD variable has an influence on UV. This shows that the higher the gamification trend relationship will increase the utilitarian value obtained by users on gamification. Users can feel the trend of gamification obtained from utilitarian value to users. So it can be concluded that TD has an effect on UV.

In the structural analysis of the model, the t-test results show that the H8 hypothesis, namely the relationship between the HV → SF variables, is accepted. This is because Hedonic Value (HV) has an influence on Satisfaction (SF). The path coefficient (β) value is 0.181, which means that the relationship between the HV → SF variables has a significant positive effect. Likewise with the value of f_2 and q_2 which has a big influence. The same research was conducted by Hsu and Chen who said that the HV variable has an influence on SF. Other studies also say that perceived value (HV and UV) has a strong relationship with SF. SF is the result of user evaluation on perceived value (HV and UV) obtained by users while using online travel agents. This evaluation is a decision whether the user is fast in using an online travel agent. So it can be concluded that HV has an effect on SF.

In the structural analysis of the t-test results model, it is found that the H11 hypothesis, namely the relationship between the HV → CI variable, is accepted. This is because Hedonic Value (HV) has an influence on Continuance Intention (CI). The path coefficient (β) value is 0.235, which means that the relationship between the HV → CI variables has a significant positive effect. Likewise with the value of f_2 and q_2 which has a big influence. The same research was conducted by previous research who said that HV has a strong relationship with CI. HV is a description of where customers experience an emotional increase obtained from their shopping experience. Customers who have a positive emotional experience will have a strong commitment to the online travel agent they use. So it can be concluded that HV has an effect on CI.

The structural analysis of the t-test results model found that the H12 hypothesis, namely the relationship between the UV → CI variable, was rejected. This is because Utilitarian Value (UV) has no effect on Continuance Intention (CI). The path coefficient (β) value is 0.007, which means that the relationship between the UV → CI variable has no significant effect. Likewise with the value of f_2 and q_2 which has little effect. The same research was conducted by previous research. The study suggests that utilitarian value and subjective norms considered as social value have no effect on SNS continuation intentions. In addition, another study conducted by previous research said that hedonic value has a positive impact on the intention to continue playing online games, while utilitarian value has no significant impact on online gaming behavior. Based on the results of the study, the researcher assumes that this condition is appropriate in the field, where users do not feel satisfied if the online travel agent does not provide services that match their expectations. So it can be concluded that UV has an effect on CI.

Conclusion

Based on the research results, almost all factors have a significant effect on online travel agents, where there are two hypotheses that are not significant because the t-statistic value is below the specified threshold, namely the interaction variable on hedonic value, this shows that users cannot interact with other users, therefore interaction owned by gamification cannot cause hedonic value felt by users and utilitarian value variables on continuance intention, this shows that there are functions or products from online travel agents that cannot cause continuance intention, so utilitarian value cannot cause continuance intention. The variables in the Extended ECM model are proven to have an effect in influencing the continuance intention of online travel agent users, with a medium category on satisfaction (SF) and strong on continuance intention (CI). This is because users feel satisfaction after receiving the benefits provided by gamification in accordance with user expectations. In addition, the services provided by online travel agents make users satisfied to continue using the travel agent application or website.

References

- Bhattacharjee, A. (2001). Understanding Information Systems Continuance: An Expectation-Confirmation Model. *Management Information Systems Research Center, University of Minnesota*, 3, 25.
- Hsu & Chen. (2018). How does gamification improve user experience? An empirical investigation on the antecedences and consequences of user experience and its mediating role.
- Hsu & Lin. (2015). What Drives Purchase Intention for Paid Mobile Apps - An Expectation Confirmation Model with Perceived Value.
- Jusuf, H. (2016). The Use of Gamification in the Learning Process. *TICOM Journal*, 5.
- Purwanto, A., & Juliana, J. (2022). The effect of supplier performance and transformational supply chain leadership style on supply chain performance in manufacturing companies. *Uncertain Supply Chain Management*, 10(2), 511-516.
- Sutagana, I. N. T., Ernayani, R., Liow, F. E. R., Octiva, C. S., & Setyawasih, R. (2022). Analisis Pengaruh Paket Remunerasi dan Stres Kerja terhadap Turnover Intention dengan Kepuasan Kerja sebagai Variabel Mediasi pada Karyawan. *BUDGETING: Journal of Business, Management and Accounting*, 4(1), 183-203.
- Tannady, H., Sjahrudin, H., Saleh, I., Renwarin, J. M., & Nuryana, A. (2022). Role of Product Innovation and Brand Image Toward Customer Interest and Its Implication on Electronic Products Purchase Decision. *Widyakala Journal*, 9(2), 93-98.
- Suyoto, Y. T., & Tannady, H. (2022). Ideal Self-Congruence: Its Impacts On Customer Love And Loyalty To Luxury Brands In Indonesia. *International Journal of Professional Business Review*, 7(6), e0769-e0769.
- Tannady, H., & Purnamaningsih, P. (2023). Determinant factors customer satisfaction and its implication on customer loyalty: from the perspective of customers of Vespa. *International Journal of Science, Technology & Management*, 4(2), 434-438.
- Wang, W., Chen, R. R., Ou, C. X., & Ren, J. (2019). Media or message, which is the king in social commerce? An empirical study of participants' intention to repost marketing messages on social media. *Computers in Human Behavior*, 176-191.