

The Effect of Addiction, Playfulness and Good Price on Purchase Intention of In-App Features: Role of Perceived Values and Loyalty to PUBG Mobile

Nabila Giovanna Widodo¹ Tengku Ezni Balqiah^{1,*}

¹Faculty of Economics and Business, Universitas Indonesia

*Corresponding author. Email: tebalqiah@gmail.com

ABSTRACT

The games industry is rapidly developing both globally and in Indonesia which results in a big revenue, in which one of the most popular is PUBG Mobile. There are various sources of income for a game, one of them is through selling in-app features that is also being done by PUBG Mobile. The purpose of this research is to know the influence of PUBG Mobile addiction and perceived value, which consist of playfulness and good price, towards loyalty to PUBG Mobile and purchase intention of PUBG Mobile in-app features. This research is analyzed using multiple regression with SPSS, based on respondent data collected through questionnaires. This was done through a method of purposive sampling towards PUBG Mobile players, aged 16 and above, who live in Indonesia and have never bought in-app features of PUBG Mobile. There is a positive influence of addiction to PUBG Mobile towards loyalty and purchase intention of in-app features, playfulness towards loyalty, playfulness towards addiction to PUBG Mobile, good price towards purchase intention of in-app features, and loyalty to PUBG Mobile towards purchase intention of PUBG Mobile in-app features. However, there is no positive influence of good price of in-app features towards loyalty to PUBG Mobile and playfulness towards purchase intention of PUBG Mobile in-app features. This research suggests game developers to be responsible for the games they created, hire a public figure to promote the game and create a virtual survey for players to write their aspirations.

Keywords: Consumer behavior, In-app features, Loyalty, Online Mobile Game, Perceived Value, Purchase Intention.

1. INTRODUCTION

The gaming industry is rapidly growing in Indonesia. In 2019, it is discovered that mobile game revenue in Indonesia is Rp 10.3 trillion [1]. There are a few reasons why mobile games thrive, one of them is the high amount of smartphone users in Indonesia, of which in 2019 it is recorded that the number is 47.6% out of the whole population [2]. There is also a massive amount of internet users in Indonesia; in 2017 171.17 million people use the internet [3] and the average hourly usage of mobile phones in Indonesia based on a research in 2019, is 4 hours a day [4].

The game that became the basis of this research is PUBG Mobile, a shooting game with 100 million users in Indonesia in 2019 [5]. This research aims to see what kind of factors can affect loyalty towards a game and

purchase intention towards in-app features inside the game. There are several income sources for a game such as ads [6], paid application [7], in-app purchase [8] and freemium [1]. In PUBG Mobile, players can buy in-app features with real money [9].

Game developers aim for gamers to be loyal and willing to purchase in-app features [10] and that condition can be achieved through several factors, such as addiction and perceived value [8], [11]. Someone who is addicted to a certain activity is more likely to become loyal and could induce purchase intention [12], [13]. Perceived value consists of playfulness, access flexibility, connectedness, good price and reward. However, this research focuses on playfulness and good price because good price itself contains access flexibility, reward, and connectedness.

A price that makes sense and is affordable will make it easier for players to buy in-app features (reward), and someone who is able to buy those items will be able to socialize easily (connectedness). Indirectly, this game is also deemed accessible, hence having access flexibility [14].

2. LITERATURE REVIEW

This research comprises several theories such as digital marketing of online games, theory of planned behavior, addiction, perceived value theory, flow theory and the three-stage model of service consumption.

2.1. Digital Marketing of Online Games

Digital marketing is an effort to achieve marketing objectives through technology [15]. This strategy stems from the development of the internet and digitalisation that makes it easier for consumers to connect to each other. For online games, some of the most popular strategies are to promote on a website, social media, utilise influencers, or app store optimization [16], [17].

2.2. Impulsiveness

Impulsiveness is a theory that is able to describe the creation of addiction to games. The greater the impulsiveness in an individual, the more likely the individual develops a gaming addiction. However, there are other contributing factors that affect the high and low levels of impulsiveness, such as intensity, frequency, and type of games [18].

2.3. Addiction

Addiction is a compulsive behavior that has negative outcomes [19]. Based on a research by Griffiths [20], addiction consists of several components such as salience, mood modification, tolerance, withdrawal symptoms, conflict, relapse and problems. Online mobile games addiction could bring negative outcomes both mentally and physically [21], [22]. When it comes to video games, there are different perceptions about addiction. The seven criteria of addictions are separated into two criteria, the first three (salience, mood modification and tolerance) are considered as positive engagement, meaning that people can be highly engaged without getting addicted. The other criteria is called core criteria of addiction (withdrawal, conflict, relapse and problems). Core criteria represent the negative effects that represent the whole idea of video game addiction [23]. This paper uses the core criteria to specifically analyze the video game addiction.

2.4. Perceived Value Theory

Perceived value is an individual's judgement of a product or service based on the benefits that is received and the cost that is expensed [8]. Perceived value components used in this research are playfulness and good price of in-app features. Playfulness is the pleasure and enjoyment obtained from performing certain activities. The more an individual is happy from performing certain activities, the individual is more prone to engage in purchase intention behavior [24]. Meanwhile, a good price of in-app features is a price that is deemed affordable by the buyer that could push the buyer to have purchase intention [25] and loyalty [26].

2.5. Flow Theory

Flow happens when an individual performs an activity intensely and starts to lose the perception of time [27]. Game developers aim for gamers to reach this state and lead them to become addicted and loyal to the game [28], [29].

2.6. Three Stage Model of Service Consumption

There are three stages an individual goes through in terms of service consumption, that is pre-purchase stage, service encounter stage and post-encounter stage [30]. Loyalty itself is a part of the post-encounter stage, along with purchase intention, when the consumer evaluates the purchase decision that has been made. In the case of free games, it is when the customer evaluates the aspects of the games such as graphics and gameplay that could lead further into actions such as purchasing the services or goods, or loyalty [31]. Loyalty itself has two types: attitudinal that relates to the psychological aspect (such as having a certain belonging to a brand), and behavioral loyalty relates to behavior such as repurchase [32], [33].

3. RESEARCH METHODOLOGY

Research methodology consists of research framework, research hypothesis, and data analysis method.

3.1. Research Framework

Figure 1 shows the research framework for this research.

3.2. Research Hypothesis

3.2.1. Addiction to PUBG Mobile

Addiction is defined as compulsive behavior that leads to negative outcomes [35]. There are two behaviors that result from addiction: one is loyalty [13]

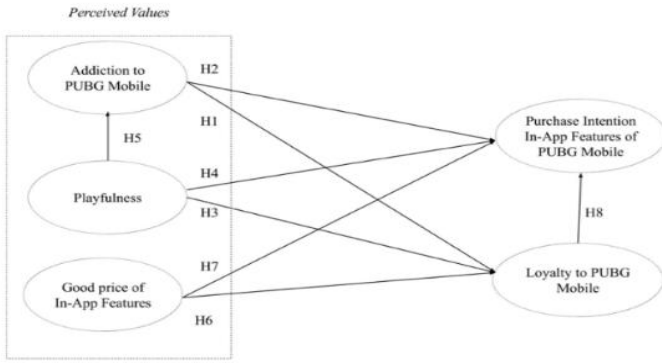


Figure 1 Research Framework

and another behavior is purchase intention. A research by Lawrence [36] states that addiction could drive compulsive buying. Based on those premises, these hypotheses are constructed:

H1: Addiction to PUBG Mobile has a positive influence towards loyalty to PUBG Mobile.

H2: Addiction to PUBG Mobile has a positive influence towards purchase intention of PUBG Mobile in-app features.

3.2.2. Playfulness

Playfulness is a state where an individual feels happy when doing a certain activity [8] and is an important benchmark in attracting gamers. The more gamers feel the game is fun to play, the more they will repeatedly play the game [37] and form loyalty. It can also branch out to purchase intentions too [38]. The more fun the game is, there is also a chance that the individual becomes addicted [34]. Based on those premises, these hypotheses are constructed:

H3: Playfulness has a positive influence towards loyalty to PUBG Mobile.

H4: Playfulness has a positive influence towards the purchase intention of PUBG Mobile in-app features.

H5: Playfulness has a positive influence towards addiction to PUBG Mobile.

3.2.3. Good Price of In-App Features

Good price stems from consumer perception that the price is affordable [39]. The affordable price could induce behavioral loyalty [40] and become a deciding factor to purchase items [39]. Based on those facts, these hypotheses are constructed:

H6: Good price of in-app features has a positive influence towards loyalty to PUBG Mobile.

H7: Good price of in-app features has a positive influence towards purchase intention of PUBG mobile in-app features.

3.2.4. Loyalty to PUBG Mobile

A loyal individual increases the chance of them purchasing in-app features thus increasing the game profits [41]. A research by Teng [41] also discovered that loyalty is measured by future behavior, of which one of them is purchase intention. Based on those grounds, this hypothesis is constructed:

H8: Loyalty towards PUBG mobile has a positive influence towards purchase intention of PUBG Mobile in-app features.

3.3. Data Analysis Method

This research uses primary data that is gathered through Google Form in the form of self-administered surveys. This research is a conclusive research and data is obtained through cross-sectional design. The questionnaire was gathered through purposive sampling method and every variable is measured by a Likert scale (1-5). The respondents of this research are PUBG Mobile players who reside in Indonesia, aged 16 and above, have never bought any in-app features and have played PUBG Mobile for the last 3-4 months. Pre-test is done to 52 people and the data are processed using SPSS 25.0.

4. RESULTS

There are 7 hypotheses that are deemed significant, which are H1, H2, H3, H4, H5, H7 and H8, meanwhile H6 is not significant.

5. DISCUSSION

H1 is accepted, therefore it can be said that addiction to PUBG Mobile has a positive influence towards loyalty to PUBG Mobile and individuals that are addicted and have a hard time to reduce their time playing PUBG Mobile is more likely play PUBG Mobile again in the future if that person wants to play online mobile games. H2 is accepted, therefore it is known that PUBG Mobile has a positive influence towards the purchase intention of PUBG Mobile in-app features. It can be concluded that individuals who have difficulty in terms of reducing PUBG Mobile playing time are predicted to buy in-app features in the near future.

Table 1. Results of The Research Hypothesis

No	Hypothesis	Std. error	Standardized coefficients	t value	Sig.
H1	Addiction to PUBG Mobile > Loyalty	.008	.154	5.680	.000
H2	Addiction to PUBG Mobile > Purchase intention	.009	.213	7.962	.000
H3	Playfulness > Loyalty	.021	.734	30.687	.000
H4	Playfulness > Purchase intention	.036	-.174	-4.915	.000
H5	Playfulness > Addiction to PUBG Mobile	.114	.168	4.496	.000
H6	Good price > Loyalty	.025	.034	1.252	.211
H7	Good price > Purchase intention	.028	.606	23.193	.000
H8	Loyalty > Purchase intention	.114	.168	7.757	.000

H3 is accepted, therefore it is known that playfulness has a positive influence towards loyalty to PUBG Mobile and individuals who feel that PUBG Mobile is a fun game will choose to play PUBG Mobile compared to other online mobile games, if they want to play a game.

H4 is rejected, therefore people who find PUBG Mobile as playful will not consider playfulness to be the reason why they purchase in-app features in PUBG Mobile.

H5 is accepted, meaning there is a positive influence of playfulness towards addiction to PUBG Mobile.

If an individual feels that PUBG Mobile is a fun game, individuals will most likely fail at reducing the duration of playing PUBG Mobile. H6 is not accepted (rejected), because there is no positive influence of the good price of in-app features towards loyalty to PUBG Mobile. Loyalty will not be formed if consumer expectation of the benefit does not match the price that is paid [42].

H7 is accepted because it is proven that there is a positive influence between good price of in-app features towards purchase intention of PUBG Mobile in-app features, which means individuals who feels that the value of in-app features in PUBG Mobile fits the price that is paid will most likely purchase in-app features of

PUBG Mobile in the near future. H8 is also accepted because there is a positive influence between loyalty to PUBG Mobile towards purchase intention of PUBG Mobile in-app features. This means individuals who chose to play PUBG Mobile compared to other online mobile games will most likely buy PUBG Mobile in-app features in the near future.

Table 2. Coefficient Determination (R^2)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.801 ^a	.642	.640	2.27808

a. Predictors: (Constant), Addiction, Playfulness, Good Price, and Loyalty

b. Dependent Variable: Purchase Intention

According to Table 2, the adjusted R square is 0.640. It means that the independent variables are affecting dependent variables by 0.640 or 64%. While the rest of the percentage (36%) might be influenced by other unknown variables outside the framework.

6. CONCLUSION AND IMPLICATIONS

6.1. Conclusion

Based on the conducted test, it is known that 6 hypotheses are accepted and 2 hypotheses are rejected. It can be concluded that there is a positive influence between addiction to PUBG Mobile towards loyalty and purchase intention of in-app features. There is also a positive influence between playfulness towards loyalty and playfulness towards addiction to PUBG Mobile. There are also positive influences between good price towards purchase intention of in-app features and between loyalty to PUBG Mobile and purchase intention of PUBG Mobile in-app features. However, there is no positive influence of good price of in-app features towards loyalty to PUBG Mobile and playfulness towards purchase intention of PUBG Mobile in-app features.

6.2. Implications

It is advised for PUBG Mobile developers to take in mind that addiction is an unhealthy behavior, so they need to be responsible for the effect it might cause. Game developers can also hire public figures to promote their game and create virtual surveys. For future research, it is advisable to include all 5 of perceived values as stated on Hsiao's [8] research and to use 0.3 as the minimum benchmark for convergent validity as stated in Arifin and Yusoff's [43] research.

REFERENCES

- [1] N. C. Laksana, "Gurahnya industri gaming di Indonesia," *Tek.id*, 2019. [Online]. Available: <https://www.tek.id/tek/gurahnya-industri-gaming-di-indonesia-b1XcZ9dUC>. [Accessed: 12-Nov-2019].

- [2] Statista Research Departement, "Indonesia: Smartphone User Penetration 2019," *Statista*, 2019. [Online]. Available: <https://www.statista.com/statistics/257046/smartphone-user-penetration-in-indonesia/>. [Accessed: 12-Nov-2019].
- [3] APJII, "Penetrasi & Profil Perilaku Pengguna Internet Indonesia," *Apjii*, 2017.
- [4] App Annie, "The State of Mobile 2019," 2019.
- [5] F. Dennys, "PUBG Mobile Tembus 100 Juta Pengguna Aktif, Indonesia di Urutan Kedua," *bola.kompas.com*, 2019. [Online]. Available: <https://bola.kompas.com/read/2019/05/25/14193398/pubg-mobile-tembus-100-juta-pengguna-aktif-indonesia-di-urutan-kedua>. [Accessed: 12-Nov-2019].
- [6] Á. V. M. Moreira, V. V Filho, and G. L. Ramalho, "Understanding mobile game success: a study of features related to acquisition, retention and monetization," *SBC J. Interact. Syst.*, vol. 5, no. 2, pp. 2–13, 2014.
- [7] S. M. Gainsbury, D. L. King, A. M. T. Russell, and P. Delfabbro, "Who pays to play freemium games? The profiles and motivations of players who make purchases within social casino games," *J. Behav. Addict.*, vol. 5, no. 2, pp. 221–230, 2016.
- [8] K. L. Hsiao and C. C. Chen, "What drives in-app purchase intention for mobile games? An examination of perceived values and loyalty," *Electron. Commer. Res. Appl.*, vol. 16, pp. 18–29, 2016.
- [9] Sukindar, "Langganan Prime dan Prime Plus Meluncur di PUBG Mobile, Dapat Item Jadi Bisa Lebih Mudah | Gadgetren," *Gadgetren*, 2019. [Online]. Available: <https://gadgetren.com/2019/04/05/langganan-prime-plus-pubg-mobile/>. [Accessed: 26-Dec-2019].
- [10] A. Jose, "In-App Purchase, Cara Developer Cari Uang Lewat Game," *Okezone*, 2015. [Online]. Available: <https://techno.okezone.com/read/2015/07/31/207/1188679/in-app-purchase-cara-developer-cari-uang-lewat-game>. [Accessed: 18-Mar-2020].
- [11] J. Balakrishnan and M. D. Griffiths, "Loyalty towards online games, gaming addiction, and purchase intention towards online mobile in-game features," *Comput. Human Behav.*, 2018.
- [12] T. J. Chou and C. C. Ting, "The Role of Flow Experience in Cyber-Game Addiction," *Cyberpsychology Behav.*, vol. 6, no. 6, pp. 663–675, 2003.
- [13] H. P. Lu and S. M. Wang, "The role of Internet addiction in online game loyalty: An exploratory study," *Internet Res.*, vol. 18, no. 5, pp. 499–519, 2008.
- [14] M. D. Owens, "Playing the Good Game: The Use of Gaming in Online Charity and Social Advocacy," *Gaming Law Rev. Econ.*, vol. 17, no. 2, pp. 117–120, 2013.
- [15] D. Chaffey and E. Chawick, *Digital Marketing: Strategy, Implementation and Practice Sixth Edition*, Sixth. Harlow: Pearson Education Limited, 2016.
- [16] F. Fan, "What Are Some Good Marketing Strategies For An Indie Video Game?," *Forbes*, 2018. [Online]. Available: <https://www.forbes.com/sites/quora/2018/08/10/what-are-some-good-marketing-strategies-for-an-indie-video-game/#72a2c266588c>. [Accessed: 15-Feb-2020].
- [17] G. Patrathiranond, "Top Mobile Games Marketing Strategies 2019," *AppRadar*, 2019. [Online]. Available: <https://appradar.com/blog/mobile-games-marketing/>. [Accessed: 15-Feb-2020].
- [18] D. L. Irlles and R. M. Gomis, "Impulsiveness and video game addiction," *Heal. Addict. / Salud y Drog.*, vol. 16, no. 1, pp. 33–40, 2016.
- [19] D. Kardefelt-Winther *et al.*, "How can we conceptualize behavioural addiction without pathologizing common behaviours?," *Addiction*, vol. 112, no. 10, pp. 1709–1715, 2017.
- [20] M. Griffiths, "A 'components' model of addiction within a biopsychosocial framework," *J. Subst. Use*, vol. 10, no. 4, pp. 191–197, 2005.
- [21] I. Ayenigbara, "Gaming Disorder and Effects of Gaming on Health: An Overview," *J. Addict. Med. Ther. Sci.*, vol. 4, pp. 001–003, 2018.
- [22] D. Loton, E. Borkoles, D. Lubman, and R. Polman, "Video Game Addiction, Engagement and Symptoms of Stress, Depression and Anxiety: The Mediating Role of Coping," *Int. J. Ment. Health Addict.*, vol. 14, no. 4, pp. 565–578, 2016.
- [23] G. S. Brunborg, D. Hanss, R. A. Mentzoni, and S. Pallesen, "Core and Peripheral Criteria of Video Game Addiction in the Game Addiction Scale for Adolescents," *Cyberpsychology, Behavior, and Social Networking*, vol. 18, no. 5, pp. 280–285, 2015.
- [24] K. Wang and C. L. Lin, "The adoption of mobile value-added services: Investigating the influence of

- IS quality and perceived playfulness,” *Manag. Serv. Qual.*, vol. 22, no. 2, pp. 184–208, 2012.
- [25] C. Ho and T. Wu, “Factors Affecting Intent To Purchase Virtual,” *Int. J. Electron. Bus.*, vol. 10, no. 3, pp. 204–212, 2012.
- [26] I. Ha, Y. Yoon, and M. Choi, “Determinants of adoption of mobile games under mobile broadband wireless access environment,” *Inf. Manag.*, vol. 44, no. 3, pp. 276–286, 2007.
- [27] T.-L. Huang and S.-L. Liao, “Creating e-shopping multisensory flow experience through augmented-reality interactive technology,” *Internet Res.*, vol. 27, pp. 449–475, Apr. 2017.
- [28] L. W. F. Gareth, “The Study of Mobile Game Loyalty: The Need Gratification and Flow Experience Approach,” no. April, 2013.
- [29] J. L. Wang, J. R. Sheng, and H. Z. Wang, “The association between mobile game addiction and depression, social anxiety, and loneliness,” *Front. Public Heal.*, vol. 7, no. SEP, pp. 5–10, 2019.
- [30] R. H. Tsiotso and J. Wirtz, “The three-stage model of service consumption,” *Handb. Serv. Bus. Manag. Mark. Innov. Int.*, no. September, pp. 105–128, 2014.
- [31] J. Wirtz and C. Lovelock, *Essentials of Services Marketing*, Third. Harlow: Pearson Education Limited, 2018.
- [32] S.-I. Cheng, “Comparisons of Competing Models between Attitudinal Loyalty and Behavioral Loyalty Assistant Professor Department of Business Administration,” *Int. J. Bus. Soc. Sci.*, vol. 2, no. 10, pp. 149–166, 2011.
- [33] P. Kaur, A. Dhir, S. Chen, and R. Rajala, “Attitudinal and Behavioral Loyalty Toward Virtual Goods,” *J. Comput. Inf. Syst.*, vol. 00, no. 00, pp. 1–12, 2019.
- [34] X. Wang, “Mobile SNS Addiction as A Learned Behavior: A Perspective from Learning Theory,” *Media Psychol.*, vol. 0, no. 0, pp. 1–32, 2019.
- [35] G. J. Hyun *et al.*, “Risk factors associated with online game addiction: A hierarchical model,” *Comput. Human Behav.*, vol. 48, pp. 706–713, 2015.
- [36] L. M. Lawrence, J. Ciorciari, and M. Kyrios, “Relationships that compulsive buying has with addiction, obsessive-compulsiveness, hoarding, and depression,” *Compr. Psychiatry*, vol. 55, no. 5, pp. 1137–1145, 2014.
- [37] L. Y. Huang and Y. J. Hsieh, “Predicting online game loyalty based on need gratification and experiential motives,” *Internet Res.*, vol. 21, no. 5, pp. 581–598, 2011.
- [38] B. W. Park and K. C. Lee, “Exploring the value of purchasing online game items,” *Comput. Human Behav.*, vol. 27, no. 6, pp. 2178–2185, 2011.
- [39] J. Hamari, K. Alha, S. Järvelä, J. M. Kivikangas, J. Koivisto, and J. Paavilainen, “Why do players buy in-game content? An empirical study on concrete purchase motivations,” *Comput. Human Behav.*, vol. 68, pp. 538–546, 2017.
- [40] T. C. E. Cheng, L. C. F. Lai, and A. C. L. Yeung, “The driving forces of customer loyalty: A study of internet service providers in Hong Kong,” *Int. J. E-bus. Res.*, vol. 4, no. 4, pp. 26–42, 2008.
- [41] C. I. Teng, “Strengthening Loyalty of Online Gamers: Goal Gradient Perspective,” *Int. J. Electron. Commer.*, vol. 21, no. 1, pp. 132–151, 2017.
- [42] J. O’Brien, “Report : Australian consumers aren’t loyal to brands,” pp. 6–10, 2018.
- [43] W. N. Arifin and M. S. B. Yusoff, “Confirmatory Factor Analysis of the Universiti Sains Malaysia Emotional Quotient Inventory Among Medical Students in Malaysia,” *SAGE Open*, vol. 6, no. 2, 2016.