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Original Article

Gaming Microtransaction in Mobile Device: An Application of Unified Theory of Acceptance and Use Technology

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Abstract: This study explores UTAUT (Unified Theory of Acceptance and Use Technology) in the context of gaming micro transaction. An extended UTAUT model framework that includes influence marketing to this research. The data analyses correspond to a sample of online player through mobile device in Indonesia. PLS-SEM is used to evaluate the data and test the hypotheses. The study reveals that influence marketing and social influence are the main factors influencing adoption and use of digital transaction in online games. UTAUT framework was confirmed in the context of the research. Gaming micro transaction is important for the developer gaming industry. Thus, it is imperative to understand the customer adoption behavior. The outcome will aid developer gaming companies develop strategies that will sustain the interest of consumers to embrace diamond in online game. In conclusion, this study has successfully explored the accepted online games, based on the unified theory of acceptance and use of technology 2 (UTAUT 2). When implementing and adapting UTAUT2 to study intentions and using diamond online games, we found that it is a enough theoretical model. However, having been adapted in a game technological context very different from that originally proposed by Venkatesh et al. (2012).

Keywords: gaming micro transaction; online games; technology acceptance; UTAUT

1. Introduction

The online game industry is currently experiencing a very significant development (Yulius, 2017). Globally, the current online game market could generate $152.1 billion in revenue in 2019 and is expected to continue to increase until 2022 (Newzoo, 2019). This increase is based on the increasing number of online game users. The development of the number of online game users cannot be separated from the emergence of a new sport that is competed in the Asian Games (e-sport) event such as mobile legend. Mobile legends online games are online games that run on mobile. Online game players can make digital transactions using a currency known as diamond (Sari et al., 2018). The digital transactions carried out are aimed at making virtual purchases of game characters, attributes and accessories. The desire of an online game player in conducting digital transactions cannot be separated from the influence of influencers. Astuti & Santoso (2016) explains that the influence of influencers can increase a person's interest in making digital

transactions by 89.7%. Audrezet et al. (2020) explain that 40% of internet users will buy a product after seeing an influencer's review on social media Instagram or YouTube. Therefore, influencer marketing is considered as the right marketing communication strategy in touching customers through social media (Kapitan & Silvera, 2016).

Influencer marketing is a marketing communication strategy that has been widely applied by marketers. Guan & Li (2021) explained that, as many as 86% of marketers have applied influencer marketing strategies in reaching customers and this trend will increase in line with the increasing use of influencer marketing on social media. Several researchers and practitioners have been motivated to explore influencer marketing as an important marketing tool (Audrezet et al., 2020; Hughes et al., 2019; Torres et al., 2019). The influence of influencer marketing on customer behavior is currently an interesting topic for academics and practitioners (Vrontis et al., 2021). Thus, a comprehensive discussion of this phenomenon is indispensable for the benefit of academics of knowledge and marketing practitioners.

This study adapts the Unified Theory of Acceptance 2 (UTAUT 2) theory developed by Venkatesh (2022). UTAUT theory is a theory that measures a person's behavior in using technology. The UTAUT research model was developed with the aim of measuring the level of customer expectations, business expectations, environmental influences and conditions that facilitate technology. Researchers see that there are gaps in empirical research, where several previous studies tested the UTAUT model in the context of electronic money (Alfansi & Daulay, 2021; Alshannag et al., 2022; Widyanto et al., 2022) and online shopping (Celik, 2016). Meanwhile, in the context of online games, previous research is still very limited (Ramírez-Correa et al., 2019). Based on the observations of researchers on the google schoolar platform, research that adopts the UTAUT model in the context of online games is still very limited (Ramírez-Correa et al., 2019; Xu, 2014). Therefore, this research becomes interesting to study. The purpose of this study is to explore the UTAUT model with the object of research being the online game diamond. This study modifies the UTAUT model by adding influencer marketing variables. This is because, the current influencer marketing strategy can encourage someone to have a very strong interest and make digital transactions. This study uses two variables adapted to the UTAUT model, such as hedonic motivation and social influence. The basis for the use of these two variables is the hedonic motivation variable and social influence is a strong predictor in testing the behavior of interest and behavior in using online games (Ramírez-Correa et al., 2019).

2. Influencer Marketing

Influencers are new opinion leaders who are born from the use of social media and described as micro celebrities (Belanche et al., 2021; Evans et al., 2017). The influencer is a unique new celebrity, and is a new strategic tool in marketing. Fundamentally, celebrities and influencers have different characteristics where celebrities are born from non-social media, while influencers are born from social media (Tafesse & Wood, 2021). Influencers are more focused on a segmented audience with similar interests. influencers have a more specific, more trusted or credible audience than conventional celebrities (Lou & Yuan, 2019; Sokolova & Kefi, 2020). Therefore, the reputation of influencers comes from the content they upload and social media activities that engage followers (Torphy et al., 2020). Influencers are opinion leaders or experts for their respective followers, hence followers will tend to seek or rely on their opinions to inform purchase decisions, reveal relevance and experience of use by influencers on social media (García et al., 2020). Therefore, the Company invests in influencer marketing with the aim of increasing brand awareness, product recommendations, brand engagement, attitudes towards sponsored brands, or purchase intentions (Belanche et al., 2021). Several studies have explained the influence of influencer marketing on interest behavior (Aryudi, 2021). Lengkawati & Saputra (2021) explained that influencer marketing has a correlation to interest behavior. Based on the previous explanation, the hypothesis of this research is as follows:
H1: Influencer marketing has an effect on behavioral intention.

2.1. Hedonic Motivation

The hedonic motivation variable is one of the factors that encourage someone to make transactions digitally (Astuti & Santoso, 2016). Hedonic motivation is the motivation of pleasure obtained from the use of a system or technology (Venkatesh et al., 2012). Someone who has hedonic motivation will make transactions based on pleasure without paying attention to the benefits of the product purchased, and this behavior shows a tendency to shop excessively (Susanto, 2021). Hedonic motivation consists of several intrinsic elements such as pleasure, excitement or entertainment. (Venkatesh et al., 2012). Therefore, if someone already has a sense of pleasure, happiness, or amusement towards an activity or product, he will try to be able to have that activity or product. Several previous studies have explained that the hedonic motivation variable is one of the factors that influence someone to use a technology. Ramírez-Correa et al. (2019) explains that hedonic motivation has a significant relationship to interest behavior. However, research by Alfansi & Daulay (2021) explains different results. In the context of electronic money transactions, hedonic motivation has no significant effect on interest behavior. Based on the previous explanation, the hypothesis of this research is as follows:
H2: Hedonic motivation has an effect on behavioral intention.

2.3. Social Influence

Social influence used to as a variable in this study. Social influence is a behavior in which individuals perceive the surrounding social environment such as family or friends who invite them to use new technology (Venkatesh et al., 2003).Social influence also reflects as the opinion of a friend, relative, or superior persuasively encourages an individual to use new technology. The social environment has a positive influence on the behavior of using technology (Alqahtani & Mohammad, 2015). Furthermore, the surrounding social environment applies hedonic motivation, it is likely that an individual will be influenced to do it. Several previous studies explain that social influence has an influence on the use of technology. Alfansi & Daulay (2021) explain that both families and friends can influence individuals in using new technologies. Adiputra & Hermawan (2020) explain the same thing, that social influence is one of the strong predictors in influencing individuals to be interested in using new technology. Furthermore, the social environment will encourage individuals to be interested in playing online games (Ramírez-Correa et al., 2019). Based on the previous explanation, the hypothesis of this research is as follows:

H3: Social influence has an effect on behavioral intention.

2.4. Behavioral Intention

Behavioral intention is an individual's desire to adapt new technology (Tsai & Cheng, 2012). There are several factors that can explain interest in using technology such as perceived convenience, perceived risk, social influence, price, trust, and preference (Junnonyang, 2021). Meanwhile, Venkatesh et al. (2003) describe factors that influence interest behavior such as, performance expectations, business expectations, facilitating conditions and social influences. This study adapts the UTAUT model by using hedonic variables of motivation and social influence in influencing interest and use behavior. In addition, this study also adds influencer marketing variables in influencing interest and usage behavior. Several previous studies have explained that there is a significant relationship between interest behavior and usage behavior (Alfansi & Daulay, 2021; Mathur & Dhulla, 2014; Venkatesh et al., 2012). Therefore, the research hypothesis is as follows:

H4: Behavioral Intention has an effect on use behavior

3. Materials and Methods

This study used to a quantitative approach, where the method aims to describe a phenomenon that occurs (Blumberg et al., 2014). This quantitative method is used to at the stage of data collection and analysis. The population in this study is people who have played games from mobile legends and bought diamonds. The purposive sampling approach is considered the most appropriate sampling method for this research, considering that this technique allows researchers to obtain accurate and reliable information. This technique also allows researchers to select respondents who have experience buying diamonds in mobile legends online games. This study uses primary data types and the source is obtained directly from the object of research in the form of a questionnaire. Data collection in this study used an online questionnaire (https://bit.ly/MinatBeliDiamondGimDaring) which was distributed to respondents in March-April 2022. This technique was carried out due to several advantages including the reach of respondents, fast delivery, and respondents can answer using electronic devices (Siagian & Cahyono, 2014). Researchers received 172 questionnaires, nevertheless 164 questionnaires were considered feasible to be further processed using Partial Least Square (PLS) analysis tool.

4. Results and Discussion

On the basis of characteristics of the respondents in this study, 44.5% were male and 55.5% were female. (Jihan, 2020) explained that female gamers began to dominate the number of gamers in Indonesia. In terms of age, in this study, most of them were in the 18-25 year old. During the past year, respondents explained that they had purchased game diamonds 1-6 times. In addition, respondents also have more than one year of online gaming experience. Furthermore, the researchers conducted reliability and validity tests. This study uses convergent and discriminant validity tests. Measurement of validity is described in (Table 1). The reliability of each statement item is evaluated by using the loading factor indicator. In the results of this study, the loadings factor value of each item and Composite reliability (CR) were declared accepted because Loadings > 0.7 were accepted. Furthermore, discriminant validity used the Fornell-Larcker and Heterotrait-Monotrait (HTMT) criteria.

Table 1. Result of Loadings, AVE, Composite Reliability and Alpha Cronbach's

Construct(s)	Item(s)	Loadings	AVE	CR	CA
Influence Marketing (IM)	IM_1	0.970			
	IM_2	0.899	0.891	0.961	0.939
	IM_3	0.961			
Hedonic Motivation (HM)	HM_1	0.954			
	HM_2	0.933	0.894	0.962	0.941
	HM_3	0.950			
Social Influence (SI)	SI_1	0.960			
	SI_2	0.975	0.937	0.978	0.966
	SI_3	0.969			
Behavioral Intention (BI)	BI_1	0.962			
	BI_2	0.950	0.905	0.966	0.948
	BI_3	0.943			
Use Behavior (UB)	UB_1	0.966			
	UB_2	0.962	0.926	0.974	0.960
	UB_3	0.959			

Table 2. Result of Discriminant validity: Fornell-Larcker criterion

	IM	HM	SI	BI	UB
IM	0.945				
HM	0.702	0.944			
SI	0.523	0.688	0.952		
BI	0.417	0.572	0.740	0.962	
UB	0.396	0.576	0.646	0.672	0.968

Table 3. Result of Discriminant validity: Heterotrait-Monotrait ratio (HTMT)

	IM	HM	SI	BI	UB
IM	1.000				
HM	0.747	1.000			
SI	0.551	0.726	1.000		
BI	0.435	0.597	0.775	1.000	
UB	0.411	0.599	0.674	0.698	1.000

Table 4. Result of Total Effect

	Original Sample	T-Statistic	P Values	Decision
H1	0.412	4.559	0.000	Supported
H2	0.085	1.144	0.253	Rejected
H3	0.375	5.616	0.000	Supported
H4	0.740	19.375	0.000	Supported

The results of hypothesis testing using SEM-PLS with SmartPLS Ver. 3 where H1, H3, and H4 are accepted (T-Statistic >1.96; P-values <0.05). Thus, (H1 and H3) the influencer marketing variables and the influence of social influence significantly affect the interest of a gamer to buy a diamond mobile legend. Also, (H4) interest behavior will influence gamers to use mobile legend diamonds. However, (H2) the hedonic motivation variable has no significant effect on the behavior of a gamer's interest in using diamond mobile legends. The purpose of this study is to explore the acceptance of online games, based on the unified theory of acceptance and use of technology 2 (UTAUT 2) and to fill in the gaps of previous research in the very limited context of online games (Ramírez-Correa et al., 2019). This study proposes the influencer marketing variable in the UTAUT model. The research findings explain that influencer marketing is one of the strong predictors that encourage gamers to be interested in using diamond mobile legends. Experiences and positive reactions displayed by influencers on social media or YouTube channels are the main indicators for gamers to be interested and use diamonds. Therefore, knowing the factors that influence the adoption of online game usage is

very relevant for industry managers and developers to offer online games with better success. Furthermore, the researcher found several results in this study.

5. Conclusion

We have explore the accepted online games, based on the unified theory of acceptance and use of technology 2 (UTAUT 2). When implementing and adapting UTAUT2 to study intentions and using diamond online games, we found that it is a sufficient theoretical model. However, having been adapted in a game technological context very different from that originally proposed by Venkatesh et al., (2012), one suggested pathway are not significant. However, UTAUT2 has high explanatory power both for intention to use and for the use the technology. In sequence to enhance parsimony of the model, the reduced model from UTAUT2 is presented, where the constructs such as hedonic motivation are not significant that can be removed. The reduced model continues to have the high explanatory power of use and intention to use online games. This findings are very interesting to understand the intention to continue play online games and they can be very useful for both game developers and industry.

References

Adiputra, I. G., & Hermawan, A. (2020). The effect of corporate social responsibility, firm size, dividend policy and liquidity on firm value: Evidence from manufacturing companies in Indonesia. *International Journal of Innovation, Creativity and Change*, *11*(6), 325–338.

Alfansi, L., & Daulay, M. Y. I. (2021). Factor affecting the use of e-money in millennial generation: Research model UTAUT 2. *Jurnal Manajemen Dan Pemasaran Jasa*, *14*(1), 109–122. https://doi.org/10.25105/jmpj.v14i1.8212

Alqahtani, M., & Mohammad, H. (2015). Mobile applications' impact on student performance and satisfaction. *Turkish Online Journal of Educational Technology-TOJET*, *14*(4), 102–112.

Alshannag, F. M., Makhamreh, H. Z., Ngah, A. H., Eneizan, B., Odeh, M. H., & Alsakarneh, A. (2022). E-payment Acceptance: Extended UTAUT Model with Security Factor. *Information Sciences Letters*, *11*(3), 943–950. https://doi.org/10.18576/isl/110325

Aryudi, Y. B. (2021). Analisis Pengaruh Perceived Value, Promosi Penjualan Dan Influencer Marketing Terhadap Minat Pembelian (Studi Pada Pengguna Aplikasi Video Game Gratis). *Jurnal Ilmiah Mahasiswa FEB*, *9*(2), 49–58.

Astuti, R. L. M. B., & Santoso, H. P. (2016). Pengaruh Promosi Online dan Celebrity Endorser terhadap Minat Beli Konsumen Tas Online Shop Fani House. *Interaksi Online*, *5*(1), 1–10.

Audrezet, A., de Kerviler, G., & Guidry Moulard, J. (2020). Authenticity under threat: When social media influencers need to go beyond self-presentation. *Journal of Business Research*, *117*, 557–569. https://doi.org/10.1016/j.jbusres.2018.07.008

Belanche, D., Casaló, L. V, Flavián, M., & Ibáñez-Sánchez, S. (2021). Understanding influencer marketing: The role of congruence between influencers, products and consumers. *Journal of Business Research*, *132*, 186–195. https://doi.org/10.1016/j.jbusres.2021.03.067

Blumberg, B., Cooper, D., & Schindler, P. (2014). *EBOOK: Business Research Methods*. McGraw Hill.

Celik, H. (2016). Customer online shopping anxiety within the Unified Theory of Acceptance and Use Technology (UTAUT) framework. *Asia Pacific Journal of Marketing and Logistics*, *28*(2). https://doi.org/10.1108/APJML-05-2015-0077

Evans, N. J., Phua, J., Lim, J., & Jun, H. (2017). Disclosing Instagram Influencer Advertising: The Effects of Disclosure Language on Advertising Recognition, Attitudes, and Behavioral Intent. *Journal of Interactive Advertising*, *17*(2), 138–149. https://doi.org/10.1080/15252019.2017.1366885

García, F., Vázquez-Guerrero, J., Castellano, J., Casals, M., & Schelling, X. (2020). Differences in physical demands between game quarters and playing positions on professional basketball players during official competition. *Journal of Sports Science & Medicine*, *19*(2), 256–263.

Guan, C., & Li, E. Y. (2021). A note on influencer marketing in social media. *International Journal of Internet Marketing and Advertising*, *15*(2), 124–128.

Hughes, C., Swaminathan, V., & Brooks, G. (2019). Driving Brand Engagement Through Online Social Influencers: An Empirical Investigation of Sponsored Blogging Campaigns. *Journal of Marketing*, *83*(5), 78–96. https://doi.org/10.1177/0022242919854374

Jihan, F. (2020). Ternyata Jumlah Gamer Wanita di Indonesia Jauh Lebih Banyak Dari Pria. In *Dikutip dari https://nextren. grid. id/read/012231813/ternyata-jumlah-gamer-wanita-di-indonesia-jauh-lebih-banyak-dari-pria*.

Junnonyang, E. (2021). Integrating TAM, perceived risk, trust, relative advantage, government support, social influence and user satisfaction as predictors of mobile government adoption behavior in Thailand. *International Journal of EBusiness and EGovernment Studies*, *13*(1), 159–178.

Kapitan, S., & Silvera, D. H. (2016). From digital media influencers to celebrity endorsers: attributions drive endorser effectiveness. *Marketing Letters*, *27*(3), 553–567. https://doi.org/10.1007/s11002-015-9363-0

Lengkawati, A. S., & Saputra, T. Q. (2021). Pengaruh Influencer Marketing Terhadap Keputusan Pembelian (Studi Pada Elzatta Hijab Garut). *Prismakom*, *18*, 32–40.

Lou, C., & Yuan, S. (2019). Influencer Marketing: How Message Value and Credibility Affect Consumer Trust of Branded Content on Social Media. *Journal of Interactive Advertising*, *19*(1), 58–73. https://doi.org/10.1080/15252019.2018.1533501

Mathur, S. K., & Dhulla, T. V. (2014). *Factors influencing professionals' decision for cloud computing adoption*. *2*(2), 397–401.

Newzoo, B. (2019). *Global Games Market Report 2019*.

Ramírez-Correa, P., Rondán-Cataluña, F. J., Arenas-Gaitán, J., & Martín-Velicia, F. (2019). Analysing the acceptation of online games in mobile devices: An application of UTAUT2. *Journal of Retailing and Consumer Services*, *50*, 85–93. https://doi.org/10.1016/j.jretconser.2019.04.018

Sari, W., Firdaus, M. R., & Ikhwan, I. (2018). Kepuasan Dengan Permainan, Identifikasi Karakter dan Nilai Konsumsi Terhadap Niat Beli Barang Virtual (Studi Pada Pemain DOTA 2 di Indonesia). *Jurnal Ekonomi Dan Manajemen*, *19*(2), 711–720.

Siagian, H., & Cahyono, E. (2014). Analisis Website Quality, Trust dan Loyalty Pelanggan Online Shop. *Jurnal Manajemen Pemasaran*, *8*(2), 55–61. https://doi.org/10.9744/pemasaran.8.2.55-61

Sokolova, K., & Kefi, H. (2020). Instagram and YouTube bloggers promote it, why should I buy? How credibility and parasocial interaction influence purchase intentions. *Journal of Retailing and Consumer Services*, *53*, 101–742. https://doi.org/10.1016/j.jretconser.2019.01.011

Susanto, J. T. (2021). Analisis Pengaruh Hedonic Shopping Motivation dan Shopping Lifestyle terhadap Impulse Buying pada Generasi Z Pengguna Tokopedia. *Jurnal Strategi Pemasaran*, *8*(1), 1–9.

Tafesse, W., & Wood, B. P. (2021). Followers' engagement with instagram influencers: The role of influencers' content and engagement strategy. *Journal of Retailing and Consumer Services*, *58*, 102–303. https://doi.org/10.1016/j.jretconser.2020.102303

Torphy, K., Hu, S., Liu, Y., & Chen, Z. (2020). Teachers Turning to Teachers: Teacherpreneurial Behaviors in Social Media. *American Journal of Education*, *127*(1), 49–76. https://doi.org/10.1086/711012

Torres, P., Augusto, M., & Matos, M. (2019). Antecedents and outcomes of digital influencer endorsement: An exploratory study. *Psychology & Marketing*, *36*(12), 1267–1276. https://doi.org/10.1002/mar.21274

Tsai, M.-T., & Cheng, N.-C. (2012). Understanding knowledge sharing between IT professionals – an integration of social cognitive and social exchange theory. *Behaviour & Information Technology*, *31*(11), 1069–1080. https://doi.org/10.1080/0144929X.2010.550320

Venkatesh, Morris, Davis, & Davis. (2003). User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly*, *27*(3), 425–478. https://doi.org/10.2307/30036540

Venkatesh, Thong, & Xu. (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly*, *36*(1), 157–178. https://doi.org/10.2307/41410412

Venkatesh, V. (2022). Adoption and use of AI tools: a research agenda grounded in UTAUT. *Annals of Operations Research*, *308*(1–2), 641–652. https://doi.org/10.1007/s10479-020-03918-9

Vrontis, D., Makrides, A., Christofi, M., & Thrassou, A. (2021). Social media influencer marketing: A systematic review, integrative framework and future research agenda. *International Journal of Consumer Studies*, *45*(4), 617–644. https://doi.org/10.1111/ijcs.12647

Widyanto, H. A., Kusumawardani, K. A., & Yohanes, H. (2022). Safety first: extending UTAUT to better predict mobile payment adoption by incorporating perceived security, perceived risk and trust. *Journal of Science and Technology Policy Management*, *13*(4), 952–973. https://doi.org/10.1108/JSTPM-03-2020-0058

Xu, X. (2014). Understanding users' continued use of online games: An application of UTAUT2 in social network games. *MMEDIA 2014*, 58–65.

Yulius, R. (2017). Analisis Perilaku Pengguna dalam Pembelian Item Virtual pada Game Online. *Journal of Animation & Games Studies*, *3*(1), 1. https://doi.org/10.24821/jags.v3i1.1582