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Modified Value-based Adoption Model (VAM) in Paid Entertainment Mobile Apps in Yogyakarta

Lusia Tria Hatmanti Hutami [1,*], Bernadetta Diansepti Maharani [2]
[1] Universitas Sarjanawiyata Tamansiswa, Jl. Kusumanegara No. 121, Yogyakarta, Indonesia, 55165
<trialusia@ustjogja.ac.id, 0895341126680>
[2] Universitas Sarjanawiyata Tamansiswa, Jl. Kusumanegara No. 121, Yogyakarta, Indonesia, 55165
<bernadettadian@ustjogja.ac.id, 081291366115>

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ABSTRACT

After the outbreak of COVID-19, there was an increase in the download of mobile applications because at that time there were regulations that required people to stay at home and maintain social distance. This has made changes to the lifestyle of consumers, some of them are no longer satisfied using the application alone but voluntarily pay to enjoy more offers in the application. We used a modified VAM to explain the intention of adoption through a benefit-sacrifice approach. Therefore, the purpose of this study is to determine the factors that influence adoption intention through the perceived value. This research uses path analysis method on 100 paid mobile entertainment application users in Yogyakarta. The results indicate that the enjoyment and perceived fee are proven to affect the perceived value and the perceived value has a significant effect on the intention of consumer adoption in the use of paid mobile applications.

Keywords:paid mobile apps; Value-based Adoption Model (VAM); adoption intention

1. Introduction

In late 2019 and continue until 2020 the world faced the pandemic era called the COVID-19 outbreak. In Indonesia itself, in many areas, children did not allow to attend school, and workers also were banned came to the office. They changed the old habit into the new one: online study, working, and entertainment. It's become the beginning of the realization that people can do any variety of entertainment activities virtually. We were ordered to stay at home and made a contact with others as minimum as we could to prevent transmission and spread of the virus. People only need to install the application in such a simple way then they can explore the world of mobile apps they prefer or need. It can be music apps, gaming apps, sports apps, movies apps, shopping apps (e-commerce), and others.

Nevertheless, the old-fashioned entertainment apps are not enough for some users. They seek more and do not mind paying some fee. Such apps usually offered many types of packages, for simplicity, researchers grouped into two types: paid users and non-paid users, this research focused on paid customer behavior. Paid users are seeking enjoyment, free-ads experience, convenience, and more. Technology Acceptance Model (TAM) as a prior theory related to technology-based behavior is still difficult to explain the voluntarily of paid behavior technology-driven. TAM introduced by Fred D. Davis, (1989) in an article "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology". Meanwhile, the Value-based Adoption Model explained more specific into the adoption behavior for paid user context.

Value-based Adoption Model (VAM) firstly introduced by Hee-Woong Kim, Hock Chuan Chan, & Sumeet Gupta in 2007 in an article "Value-based Adoption of Mobile Internet: An empirical investigation". This theory describes a new sight point of view of advanced technology which users have been offered nowadays. VAM offers a clear understanding of what factors influence value perception and how value perception leads to adoption from the value

maximization perspective (H. W. Kim, Chan, & Gupta, 2007). VAM compared the perceived benefit and perceived sacrifices to gain the better understanding of the adoption behavior by using perceived value as a mediation variable. The perceived benefit contains two variables which are usefulness and enjoyment meanwhile perceived sacrifice contains also two variables which called perceived fee and technicality (H. W. Kim et al., 2007).

VAM applied in many technological adoption behavior research, such as Lau, Chui, & Au, (2019) research about augmented reality programs, Y. Kim, Park, & Choi, (2017) research about Internet of Things smart home service, Chong, Zhang, Lai, & Nie, (2012) research about mobile internet, Putri & Gunawan, (2020) research about Low Carbon Emission Vehicle and so on. There is still a vast use of technology customers rely on that has not been explained using VAM. However, there still also a gap in VAM research that has been used to explain the marketing aspect of technological behavior in Indonesia. Therefore, in this research VAM applied as an effort to explain the dual behavior that users act in a paid apps, in which users choose and pay some fee in order to gain some value. Hopefully, this research can bring significant insight into a paid adoption behavior in mobile apps.

H. W. Kim et al., (2007) proposed perceived benefit that contains two subsystems which are usefulness (extrinsic) and enjoyment (intrinsic) as a motivation to perform a certain activity. Based on Davis (1989) perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance. Individuals evaluate the consequences of their behavior in terms of perceived usefulness and base their choice of behavior on the desirability of the usefulness (H. W. Kim et al., 2007). Usefulness means the quality level of product or service that can assist their user. While, the perceived value defined as the overall assessment by a consumer on the utility of a service or product evaluated from the perception of what is received (get factors) and what is given (input factors) (Zeithaml, 1988). Therefore, if consumers feel high engagement to the mobile application, they will form positive perceived value in the use of the mobile application. Therefore first hypotheses stated:

H1: Usefulness influences Perceived Value

Based on H. W. Kim et al., (2007) an individual experience immediate pleasure from using some technology and do everything involving the technology to be enjoyable and they have own right aside from instrumental value of the technology, they are more likely to adopt the technology and use it more extensively than the others. A hedonic motivation perspective such as perceived enjoyment, is raise feelings of pleasure, joy and fun Wang, Wang, Lin, & Tsai, (2019). The evaluation of enjoyment component are excitement and fun (Lau et al., 2019). According to the previous study Roostika, (2012) show that enjoyment have positive direct influence with perceived value.

H2: Enjoyment influences Perceived Value

Based on H. W. Kim et al., (2007) perceived sacrifices contain non-monetary (technicality) and monetary context (perceived fee). Non-monetary sacrifices are very important as they increase the subjective evaluation in the perception of price (Shintaputri & Wuisan, 2017; Zeithaml, 1988). Technicality defined as degree of difficulty in using the relevant service process (Y. Kim et al., 2017). Technicality in the use of paid mobile apps means the level of technical excellence of the paid mobile apps in performing their program. It included the degree of difficulties, time consumed, and degree of effort to install until the paid mobile apps perform. Therefore if users has high technicality issue it affects perceived value downfall. Therefore third hypotheses stated:

H3: Technicality influences Perceived Value

Perceived fee defined as the encoding or internalization of the objective selling price of a product/ service (H. W. Kim et al., 2007). While perceived price can be defined as a customer's subjective perception of what is given up or sacrificed to acquire the product (Zeithaml, 1988). In paid mobile apps, consumers needed to pay to gain further benefits that different from non-paid consumers. Some applications give the free trial experience to give better sight of the adding value become "VIP" but only for a certain period. If customers believe that they pay too much for a mobile apps service that seems "unworthy" then it brings a negative impact to the customers, vice versa. Based on previous studies, the relationship between perceived fee and perceived value has proven to be negative (Chong et al., 2012; H. W. Kim et al., 2007; Y. Kim et al., 2017). Therefore fourth hypotheses stated:

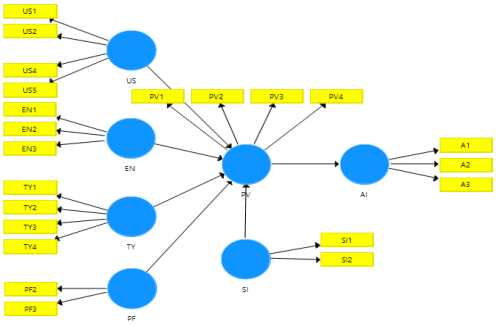
H4: Perceived Fee influences Perceived Value

Social influence is a subjective norm in the Theory of Planned Behavior, which defined as the degree to which an individual perceives that most people who are important to him think he should or should not use the system (Ajzen & Fishbein, 1977). Researchers try to capture the driven from social factors because of the bounding of Indonesian citizen to each other. The use of certain technologies is influenced by environmental factors such as the opinions of friends and family who use the technology, with a positive opinion or support it will encourage users to start using the technology (Mufingatun & Prijanto, 2020; Nugroho, Winarno, & Hartanto, 2017). When customers have a similarity to their social groups including sharing the same user of certain paid mobile apps, they will feel connected to each other. Some paid mobile apps also offering the "family package" which is for more than one account that can share the application together with less price. Therefore fifth hypotheses stated:

H5: Social Influence influences Perceived Value

Based on Zeithaml, (1988) perceived value defined value as overall assessment of a consumer regarding product based on the customer's perceptions of what is received and given. Perceived value describe how comparing benefits with sacrifices and is an indicator of adoption intention (H. W. Kim et al., 2007). Perceived value implicate all cost and benefits consumer find the purchase and use of product or service affects behavioral intention, also behavioral intention id the degree of reported intention to use products of service in the future (Roostika, 2012). According to H. W. Kim et al., (2007) value can represents an overall estimation of the choice, based on thin overall estimation consumer can decide their choice behavior. Adoption intention is defined as a person's subjective probability that they will perform some behavior (Lau et al., 2019). Past research identified the model also confirmed that benefit and input are indeed related positively to perceived value, which will then contribute to adoption intention (Lau et al., 2019). Valuation about perceived value mobile application is achieved by comparing the benefits and feedback about the result from using the mobile application, which can determines the adoption intention. Therefore sixth hypotheses stated:

H6: Perceived Value influences Adoption Intention



Picture 1. Research Model

2. Method

The population is people who already ever paid using some mobile application in Yogyakarta (Indonesia), used purposive sampling method. The method used in this research are path analysis by SmartPLS3, but before hypotheses testing (inner model), researchers tested the validity and reliability's construct of the research model fit (outer model). Based on Chin, (1998) some of the parameters need to be achieved, such as: Average Variance Extracted (AVE) >0.5; outer loading >0.7; cross loading 0.7; composite reliability >0.6; and Cronbach's Alpha >0.6. Based on Chin, (1998) R Square amount 0.67 means strong, 0.33 means moderate and 0.19 means weak.

3. Results

The total number of respondents collected is 100 from a total of 112 who did not pass the criteria. The respondents are dominant females by 53% and 47% male. The application that is used by respondents is Spotify Premium 49%, Netflix 95%, Joox VIP 12%, Mola TV 11%, VIU Premium 9%, We TV 6% and YouTube Premium 3%. The age respondents are from age 24 until 26 are 60 respondents, age 27 until 29 are 10 respondents, age 30 until 22 are 27 respondents, and age 34 until 37 are 3 respondents. From the salary per month, range two million Rupiah until five million Rupiah are 83 respondents, range five million Rupiah until eight million Rupiah are nine respondents, range eight million Rupiah until eleven million Rupiah are seven respondents, and range more than eleven million Rupiah is one respondent.

Table 1, Table 2, and Table 3 showed the indicators reliability, internal consistency reliability, convergent and discriminant validity for the research model. Based on Table 1. Outer Loading showed all of the indicators are greater than 0.7. That indicates there is no issue in indicators reliability.

Based on Table 2. Construct Validity and Reliability it can be indicated that the research model is fit. Cronbach's Alpha showed greater than 0.7 which means all of the variables are highly reliable (Usefulness is 0.802, Enjoyment is 0.850, Technicality is 0.971, Perceived Fee is 0.841, Social Influence is 0.797, Perceived Value is 0.886, and Adoption Intention is 0.913). Composite reliability also showed all of the variables are greater than 0.7 (Usefulness is 0.870, Enjoyment is 0.909, Technicality is 0.978, Perceived Fee is 0.917, Social Influence is 0.904, Perceived Value is 0.922, and Adoption Intention is 0.945) and together with Cronbach's Alpha indicated that all of the variables have internal consistency reliability. The result of AVE showed that all of the variables are greater than 0.5 which indicates that convergent validity is verified (Usefulness is 0.629, Enjoyment is 0.769, Technicality is 0.919, Perceived Fee is 0.848, Social Influence is 0.825, Perceived Value is 0.750, and Adoption Intention is 0.853).

Based on the result in Table 3. Fornell-Larcker Test compared to the root square of each construct's AVE value (the top number of each line) is greater than any other construct which correlated with it. Therefore, it can be concluded that there is discriminant validity in the model.

Based on Table 4. R Square result showed that R Square of Adoption Intention is 0.361 (> 0.330) and R Square of Perceived Value is 0.767 (0.670). Therefore, it can be concluded Adoption Intention model is moderate model and Perceived Value model is strong model.

The first hypothesis stated that usefulness influences perceived value is rejected. Based on result p-value > 0.05, standard deviation is 0.092 and t statistic is 0.490. However, this finding needs further explanation since this finding brings the opposite result to the previous research. The result indicates that respondents rely more on the intrinsic factor (the degree of enjoyment) than the extrinsic (the degree of usefulness) factor when they deal with the use of paid entertainment mobile applications. Based on the research results of J. Kim & Kim, (2021) showed enjoyment re-

jected toward intention to use for PropTech service model indicating that the result also depends on the object of the author's research.

Table 1. Outer Loading

	US	EN	TY	PF	SI	PV	AI
US1	0.736						
US2	0.755						
US3	0.937						
US4	0.727						
EN1		0.892					
EN2		0.881					
EN3		0.858					
TY1			0.943				
TY2			0.984				
TY3			0.926				
TY4			0.980				
PF1				0.866			
PF2				0.972			
SI1					0.947		
SI2					0.868		
PV1						0.891	
PV2						0.926	
PV3						0.893	
PV4						0.741	
AI1							0.894
AI2							0.967
AI3							0.907

Source: Processed Data, 2021

Table 2. Construct Validity and Reliability

	Cronbach's Alpha	Rho_A	Composite Reliability	Average Variance Extracted (AVE)
US	0.802	0.817	0.870	0.629
EN	0.850	0.853	0.909	0.769
TY	0.971	0.985	0.978	0.919
PF	0.841	1.215	0.917	0.848
SI	0.797	0.906	0.904	0.825
PV	0.886	0.890	0.922	0.750
AI	0.913	0.913	0.945	0.853

Source: Processed Data, 2021

Table 3. Fornell-Larcker Test

	AI	EN	PF	PV	SI	TY	US
AI	0.923						
EN	0.437	0.877					
PF	0.481	0.113	0.921				
PV	0.601	0.794	0.438	0.866			
SI	0.580	0.673	0.436	0.733	0.908		
TY	0.388	0.876	0.173	0.716	0.533	0.959	
US	0.576	0.659	0.355	0.609	0.598	0.576	0.793

Source: Processed Data, 2021

Table 4. R Square

	R Square	Adjusted R Square
AI	0.361	0.354
PV	0.767	0.755

Source: Processed Data, 2021

Table 5. Result of The Structured Model

	Sample Mean	Standard Deviation	T Statistic	P Value	Conclusion
US -> PV	-0.033	0.092	0.490	0.624	Rejected
EN -> PV	0.635	0.153	4.146	0.000	Accepted
TY -> PV	0.029	0.154	0.249	0.803	Rejected
PF -> PV	0.290	0.079	3.750	0.000	Accepted
SI -> PV	0.179	0.097	1.907	0.057	Rejected
PV -> AI	0.599	0.065	9.290	0.000	Accepted

Source: Processed Data, 2021

The second hypothesis stated that enjoyment influences perceived value is accepted. Based on result, p-value < 0.05, standard deviation 0.153 and t statistic is 4.146. This result indicates that the user paid mobile entertainment applications have own enjoyment to use this application as they expected before likewise they feel the application so useful and usefulness has emerged as one the major factors determining adoption.

The third hypothesis stated that technicality influences perceived value is rejected. Based on result, p-value > 0.05, standard deviation is 0.154, and t statistic is 0.249. This result indicates that non-monetary sacrifices do not become a consideration from customers when using paid entertainment mobile applications. Therefore, it can be concluded they are more reliant on monetary sacrifices.

The fourth hypothesis stated that perceived fee influences perceived value is accepted. Based on result, p-value < 0.05, standard deviation is 0.079, and t statistic is 0.249. Although the hypothesis is accepted the positive relationship enriches the research related to paid mobile entertainment applications. Customers seems do not mind to pay more as long as they experience the value of the service/product.

The fifth hypothesis stated that social influence influences perceived values is rejected. Based on result, p value> 0.05, standard deviation is 0.097, and t statistic is 1.907. This result indicates that the user of paid mobile entertainment applications still has not become a trend in Yogyakarta. Customers still reluctant to share or discuss the use of such an application because the "the hedonist" image comes within in the middle of a societal tough situation.

The sixth hypothesis stated that perceived value influences adoption intention is accepted. Based on the result, p-value < 0.05, the standard deviation is 0.065, and t statistic is 9.290. This consistent with the result of previous papers H. W. Kim et al., (2007) " Value-based Adoption of Mobile Internet: An empirical investigation" the result shows that perceived value has a significant effect on adoption intention, evidently supporting the VAM concept. The core of VAM is the value, which is proving to predict adoption intention. The result of previous research Roostika, (2012) identified that perceived value has a significant influence on adoption intentions. This implies that the user of the paid entertainment mobile applications feel the benefits, feedbacks, and costs are crucial variable in determining adoption intention to use this mobile application.

4. Conclusion

The research enriches the modified VAM's research with the addition of social influence in the term of the user of paid entertainment mobile application in Yogyakarta, Indonesia. The results showed that enjoyment and perceived fee influence perceived value and perceived value influence adaptation intention. Our findings imply that the importance of quality of the entertainment application that can bring happiness and joy despite the fee it comes from. It also indicates paid mobile entertainment application still has not been a popular way of customer used. Therefore, need a better strategy to persuade customer voluntarily willing to pay for the applications company. Further research needs to focus on perceived ease of use and satisfaction to be tested. The limitation of this research would the limitation of the area that the research located, therefore the result cannot be implied in other areas.

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