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# Factors Driving the Use of Video on Demand (VoD)

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**ABSTRACT:**
The purpose of this research is to investigate the factors that influence the current and future use of VoD applications. The factors investigated based on perceived value are ease of use, convenience value, monetary value, emotional value, social value and identity salience. In addition, predictions are made on the factors of user value in understanding the use of VoD. The research design uses a survey of users who subscribe to VoD services in Jabodetabek. The target sample is 300 VoD users. The data analysis method uses the partial least square-structural equation modeling (PLS-SEM).

**Keywords: Video on Demand, Future Intentions, Use of VoD, Perceived Value**

## I. INTRODUCTION

The use of the internet in the world has always increased every year, including in Indonesia. Based on internetworldstats data, Indonesian internet users reached 212.35 million in March 2021. With this number, Indonesia is in third place with the most internet users in Asia (Kusnandar, 2021). This number is predicted to increase every year. The increase in the number of internet users has resulted in many new innovations from service providers such as website-based buying and selling services (e-commerce), online news portals, e-learning, social media, messaging platforms, and platforms that offer streaming services such as video and music.

One of the behaviors of internet users besides interacting on social media is watching videos from their smartphones (Aruan and Felicia, 2021). This condition underlies service provider companies to continue to develop and innovate in video streaming applications.

Video on demand (VoD) service is a service that allows users to request the video shows they want. For example, in applications that can be used on smartphones or PCs, users can search for their favorite films and then download or rent them to watch. The fees charged are relatively different, some have to subscribe and some are charged data package fees, or can even be obtained by credit or other payment models.

Seeing the high development and entry of Video Streaming services, businesses must optimize various factors that can encourage consumers to be interested in using their services. The body of knowledge in this study supports IT policy in implementing video streaming service technology according to user needs. Based on the background above, this research wants to

identify the factors that encourage users to subscribe to video on demand based on the user's perceived value. These factors include perceived value, namely ease of use, convenience value, monetary value, emotional value, social value and identity salience.

## II. LITERATURE REVIEW

### A. Technology Acceptance

Technology theory studies focus on various reasons, such as relative advantage, compatibility, ease of use, trialability, observability and social norms. These factors motivate the adoption of new technologies (Rogers, 2003; Venkatesh et al., 2003, 2012; Peters & Dutschke, 2014). Various technology acceptance models (TAM) have been used to explore behavioral intentions and levels of technology use (Davis, 1989; Venkatesh et al., 2012) although with a more utilitarian approach, not fully addressing emotional and hedonistic motivations, as in the context of streaming technology users. (Chen et al., 2018). Previous research has tended to focus on adopters, including the first to adopt an innovation (the innovator) and the early adopter (Rogers, 2003). The research findings are still relevant when applied to past streaming technologies, but today's streaming technologies are no longer new technologies, but technologies that are entering the last stage of the innovation growth curve (Lu¨ders et al., 2021). The question is, what are the reasons or motivations for users to use video on demand technology? and will their current preferences and behavior lead to their continued use? This question needs to be examined from the concepts of user cognition, perceived value and identity salience when adopting technology in general and video on demand technology in particular.

### B. Ease of Use

Ease of use is a construct of the TAM framework, namely the importance of ease of use of technology by users and a measure of value associated with their ability to use it without having to spend too much effort (Venkatesh, 2000). Ease of use is affected by the amount of cognitive effort, or ability to process necessary knowledge or understanding, required to enjoy a particular technology. In the early stages of technology adoption, cognitive effort or ease of use can have a significant effect on the intention to adopt a new technology (Walsh, 2012; Kim et al., 2016). Various researchers have examined the cognitive effort-intention relationship and found a significant relationship between minimum cognitive effort or ease of use of technology and the perceived value and use of technology (Tanford et al., 2012; Mohd-Any et al., 2015; Oyedele & Simpson, 2018; Zeithaml et al., 2020).

### C. Perceived value

The success rate of adopting a product or service is driven by how users perceive the functional value provided by the product or service. Recent research results attempt to measure the impact of these values from the customer's perspective (Singh et al., 2021; Arun et al., 2021). The idea of perceived value was advanced by Sheth et al, (1991) and broken down into a set of five elements of value contribution: emotional, social, conditional, epistemic and functional. The online technology adoption literature revised and added to the terminology of utilitarian value involving convenience value (Mohd-Any et al., 2015) and monetary value or value (Oyedele & Simpson, 2018). This study does not delve deeply into the perceived value dimensions identified in the literature but will refer to Zeithaml et al. (2020) for a comprehensive summary of the paradigm representations around the concept of consumer value. When one considers how consumers perceive the value they receive from VoD services, that value can be related to several common but effective components such as convenience

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value, monetary value, emotional value, and social value (Chen et al., 2017; Hasan et al., 2018; Oyedele & Simpson, 2018; Singh et al., 2021).

### D. Behavioral Intention

Davis (1989) proposed TAM to investigate the factors that lead to technology acceptance and to help understand what influences computer user behavior. The premise is that the conscious decision-making process informs the user's behavioral intention to use the technology and two different factors, namely perceived ease of use and perceived usefulness (cognitive effort), contribute to user decision making (Mohd-any et al., 2015). Critics of TAM have been the utilitarian approach to its use, which for information technology systems may be appropriate but for technologies that may be more pleasure-driven in terms of user expectations, it may be more than TAM is necessary to identify the behaviors that generate user adoption (Chen et al., 2018 ; Florenthal et al., 2020). For this reason, the literature has identified perceived value factors as previously described, as significant contributors to behavioral intention to use online services (Wu & Wang, 2005; Hsiao & Chen, 2018; Cocosila & Igonor, 2015; Jebarajakirthy & Shankar , 2021). This also applies to young consumers and their use of mobile technology (Oyedele et al., 2018) and entertainment streaming applications (Oyedele and Simpson, 2018). Therefore, this study has adapted Oyedele and Simpson's (2018) research model to investigate the effect of perceived value constructs and identity salient constructs on the behavior of current and future VoD users.

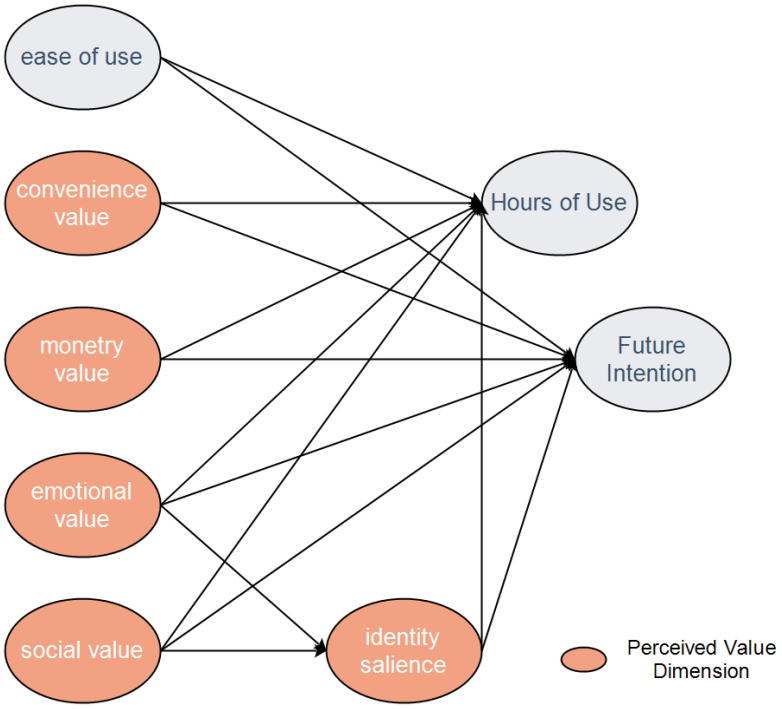


Figure 1. Perceived value constructs and identity salient constructs on current and future VoD user behavior

## III. METHODS

Data analysis techniques in this study used structural equation modeling (SEM) with SmartPLS software. Structural Equation Modeling is a multivariate statistical analysis method by analyzing based on measurement models and structural models.

## IV. RESULTS AND DISCUSSION

### A. Outer Model Evaluation

Testing the outer model in research to evaluate the level of validity and reliability of questionnaire items. Questionnaire items are declared valid if the loading factor value is > 0.70 and the AVE value is > 0.50. Meanwhile, the reliability test refers to the composite reliability value > 0.70.

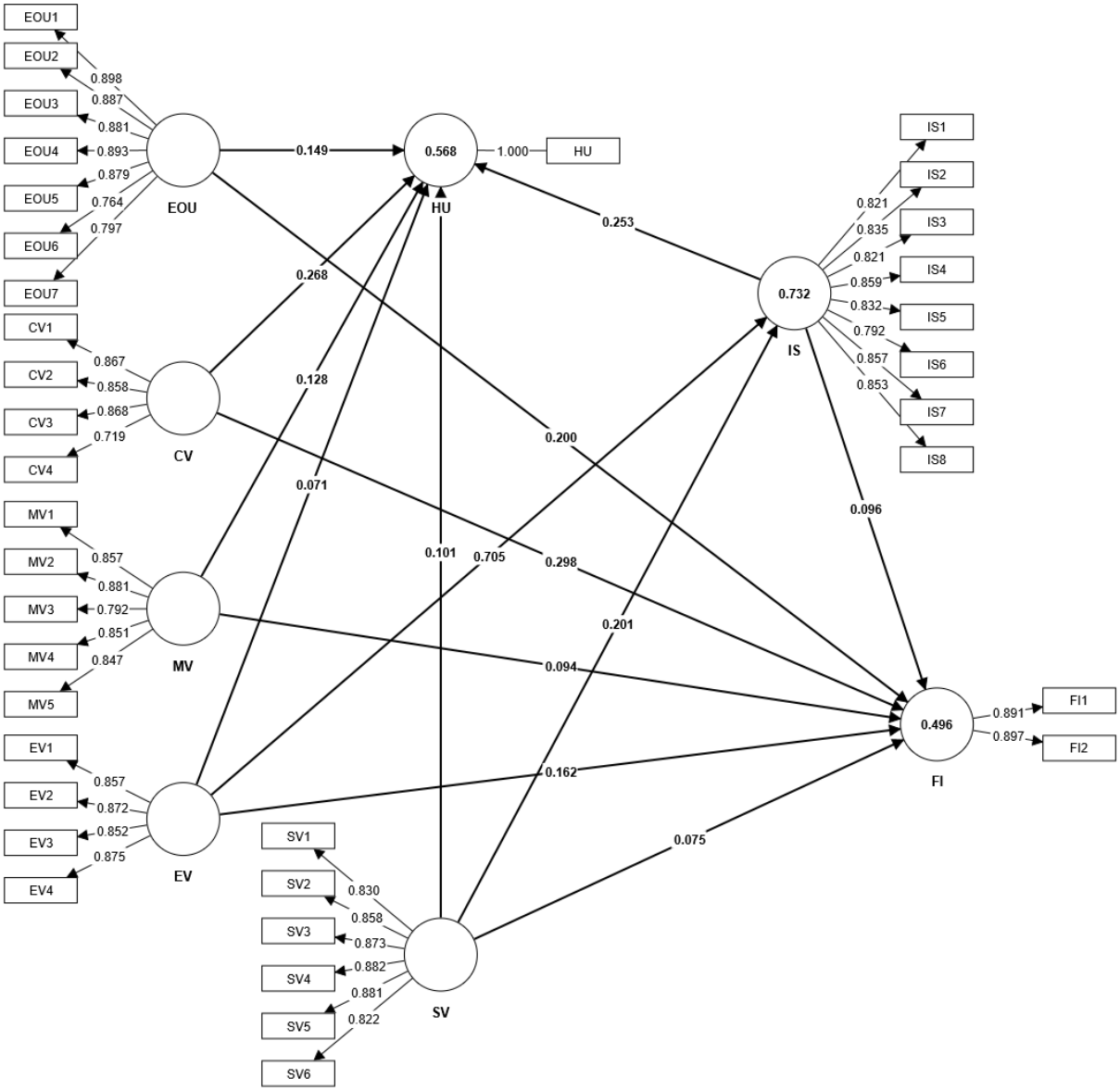


Figure 2. Measurement Model

Table 1: Convergent Validity and Reliability

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| Variabel | Item | LF | AVE | CR |
|---|---|---|---|---|
| Convenience value | CV1 | 0.867 | 0.690 | 0.867 |
| | CV2 | 0.858 | | |
| | CV3 | 0.868 | | |
| | CV4 | 0.719 | | |
| Ease of use | EOU1 | 0.898 | 0.737 | 0.943 |
| | EOU2 | 0.887 | | |
| | EOU3 | 0.881 | | |
| | EOU4 | 0.893 | | |
| | EOU5 | 0.879 | | |
| | EOU6 | 0.764 | | |
| | EOU7 | 0.797 | | |
| Emotional value | EV1 | 0.857 | 0.747 | 0.888 |
| | EV2 | 0.872 | | |
| | EV3 | 0.852 | | |
| | EV4 | 0.875 | | |
| Future intention | FI1 | 0.891 | 0.799 | 0.749 |
| | FI2 | 0.897 | | |
| | IS1 | 0.821 | | |
| Identity salience | IS2 | 0.835 | 0.696 | 0.938 |
| | IS3 | 0.821 | | |
| | IS4 | 0.859 | | |
| | IS5 | 0.832 | | |
| | IS6 | 0.792 | | |
| | IS7 | 0.857 | | |
| | IS8 | 0.853 | | |
| Monetary value | MV1 | 0.857 | 0.716 | 0.902 |
| | MV2 | 0.881 | | |
| | MV3 | 0.792 | | |
| | MV4 | 0.851 | | |
| | MV5 | 0.847 | | |
| Social value | SV1 | 0.830 | 0.736 | 0.928 |
| | SV2 | 0.858 | | |
| | SV3 | 0.873 | | |
| | SV4 | 0.882 | | |
| | SV5 | 0.881 | | |
| | SV6 | 0.822 | | |

Based on Figure 1 and Table 1, it can be seen that all items to measure each variable produce a loading factor (LF) value > 0.70, AVE > 0.5 and a Composite Reliability value > 0.70. Therefore it can be concluded that the questionnaire used in this study is valid and reliable.

The next stage is testing discriminant validity to ensure that the reflective construct has the strongest relationship with its own indicator when compared to other constructs in the PLS path model. Discriminant validity testing uses the Fornell Lacker method. Here are the results.

Table 2: Discriminant Validity - Fornell Lacker

| | CV | EOU | EV | FI | IS | MV | SV |
|---|---|---|---|---|---|---|---|
| CV | 0.830 | | | | | | |
| EOU | 0.302 | 0.858 | | | | | |
| EV | 0.359 | 0.527 | 0.864 | | | | |
| FI | 0.516 | 0.520 | 0.570 | 0.894 | | | |
| IS | 0.400 | 0.552 | 0.843 | 0.583 | 0.834 | | |
| MV | 0.348 | 0.555 | 0.675 | 0.536 | 0.741 | 0.846 | |
| SV | 0.387 | 0.542 | 0.690 | 0.536 | 0.687 | 0.641 | 0.858 |

Based on Table 2, it can be seen that the AVE root value (black block) for each variable is greater than the correlation of other variables. That is, discriminant validity with the Fornell Lacker method is fulfilled.

## B. Evaluation of the Inner Model

Structural model assessment is measured by significant values between variables, R2, F2 effect size and PLSPredict. Structural model analysis using bootstrapping technique with a significance level of 0.05. The results of calculating the PLS-algorithm and bootstrapping for the structural model are presented in Figure 2 and Table 3 below.

Table 3: Hypothesis Testing

| Path | STD | STDEV | T stats | P values | Hypothesis | R square | F Square |
|---|---|---|---|---|---|---|---|
| EOU -> FI | 0.200 | 0.049 | 4.096 | 0.000 | Accepted | 0.496 | 0.049 |
| CV -> FI | 0.298 | 0.036 | 8.227 | 0.000 | Accepted | | 0.143 |
| EV -> FI | 0.162 | 0.069 | 2.35 | 0.019 | Accepted | | 0.014 |
| IS -> FI | 0.096 | 0.078 | 1.236 | 0.216 | Rejected | | 0.004 |
| MV -> FI | 0.094 | 0.059 | 1.602 | 0.109 | Accepted | | 0.007 |
| SV -> FI | 0.075 | 0.060 | 1.239 | 0.215 | Rejected | | 0.005 |
| EV -> IS | 0.705 | 0.034 | 20.544 | 0.000 | Accepted | 0.732 | 0.970 |
| SV -> IS | 0.201 | 0.035 | 5.703 | 0.000 | Accepted | | 0.079 |
| CV -> HU | 0.268 | 0.038 | 6.974 | 0.000 | Accepted | 0.568 | 0.135 |
| EOU -> HU | 0.149 | 0.038 | 3.954 | 0.000 | Accepted | | 0.032 |
| EV -> HU | 0.071 | 0.062 | 1.144 | 0.253 | Rejected | | 0.003 |
| IS -> HU | 0.253 | 0.071 | 3.537 | 0.000 | Accepted | | 0.033 |
| MV -> HU | 0.128 | 0.053 | 2.409 | 0.016 | Accepted | | 0.015 |
| SV -> HU | 0.101 | 0.047 | 2.135 | 0.033 | Rejected | | 0.010 |

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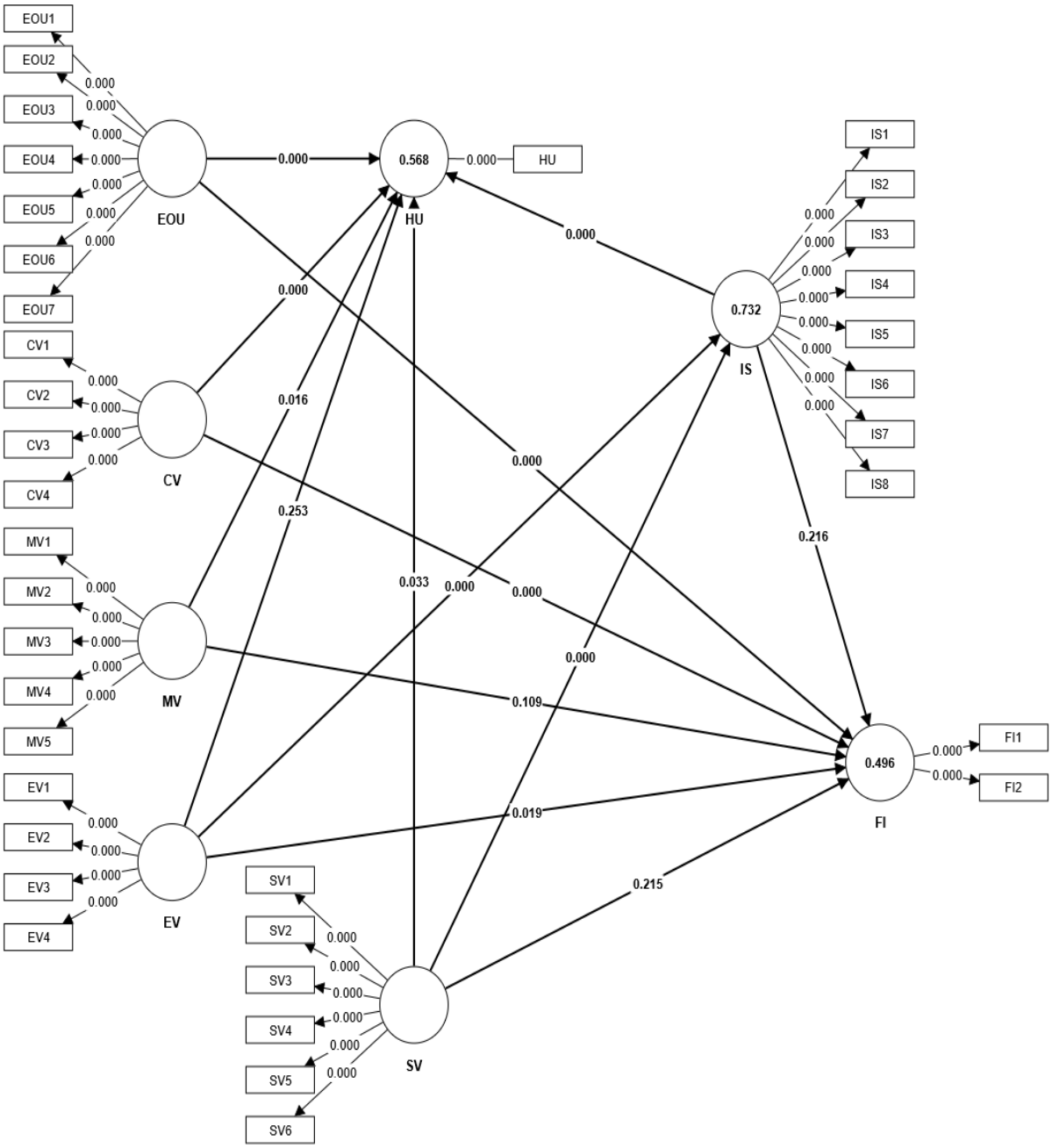


Figure 2: Structural Model

Table 3 and Figure 2 provide clear information about hypothesis testing in the structural model. The results, EOU (β = 0.200; t-stats 4.096 > 1.96; p-value 0.000 < 0.05), CV (β = 0.298; t-stats 8.227 > 1.96; p-value 0.000 < 0.05), EV (β = 0.162; t-stats 2.35 > 1.96; p-value 0.019 < 0.05) positively and significantly affects FI. Meanwhile, IS, MV and SV had no significant effect on FI. Overall, the relationship between each of these variables produces a value of R2 = 0.496. That is, EOU, CV, EV, IS, MV and SV are able to explain FI moderately by 49.6%. At a structural level, EOU, CV, EV, IS, MV and SV have a weak influence on FI. Furthermore, EV (β = 0.705; t-stats 20.544 > 1.96; p-value 0.000 < 0.05), and SV (β = 0.201; t-stats 5.703 > 1.96; p-value 0.000 < 0.05) positively and significantly affect IS . Overall, the relationship between each of these

variables produces a value of R2 = 0.732. That is, EV and SV are able to explain IS strongly by 73.2%. At the structural level, EV on IS has a very strong and weak effect on FI, while SV has a weak effect on FI. Finally, EOU (β = 0.149; t-stats 3.954 > 1.96; p-value 0.000 < 0.05), CV (β = 0.268; t-stats 6.974 > 1.96; p-value 0.000 < 0.05), IS (β = 0.253; t-stats 3.537 > 1.96; p-value 0.000 < 0.05), MV (β = 0.128; t-stats 2.409 > 1.96; p-value 0.016 < 0.05) and SV (β = 0.101; t-stats 2.135 > 1.96; p -value 0.033 < 0.05) positively and significantly affects HU. While EV has no significant effect on HU. Overall, the relationship between each of these variables produces a value of R2 = 0.496. That is, EOU, CV, EV, IS, MV and SV are able to explain HU moderately by 56.8%. At a structural level, EOU, CV, EV, IS, MV and SV have a weak influence on FI.

The researcher's model has a good predictive value if it produces PLS-SEM <LM. Based on table 4, it can be seen that the RMSE value on PLS-SEM-LM is negative. This means that the PLS-SEM-RMSE value is less than the LMS-RMSE so that it can be concluded that the question items for each variable are able to predict each variable.

Table 4: PLSPredict

| | $Q^2$predict | PLS-SEM RMSE | LM RMSE | PLS-LM |
|---|---|---|---|---|
| FI1 | 0.376 | 0.598 | 0.607 | -0.009 |
| FI2 | 0.389 | 0.573 | 0.584 | -0.011 |
| IS1 | 0.535 | 0.596 | 0.600 | -0.004 |
| IS2 | 0.536 | 0.601 | 0.609 | -0.008 |
| IS3 | 0.502 | 0.636 | 0.638 | -0.002 |
| IS4 | 0.512 | 0.605 | 0.612 | -0.007 |
| IS5 | 0.493 | 0.609 | 0.620 | -0.011 |
| IS6 | 0.428 | 0.684 | 0.697 | -0.013 |
| IS7 | 0.509 | 0.651 | 0.655 | -0.004 |
| IS8 | 0.530 | 0.631 | 0.636 | -0.005 |

## V. CONCLUSION

This study develops the model previously studied by referring to the theory of social identity in using VoD services. Several psychological factors still need to be studied in the context of technology adoption, such as pleasure, satisfaction, experience, and others. This research was conducted in a developing country: Indonesia. For further research, it can be compared with VoD users in developed countries using multigroup analysis methods to provide comprehensive insights for VoD service providers.

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