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Attitudes Toward Mobile App Payment Systems: A Case Study Among Indonesian Millennials

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ABSTRACT

This study adapted the Technology Acceptance Model (TAM) to examine the usefulness of mobile apps, value-for-money, emotional value, and individual mobility factors that influence Indonesian millennials' attitudes toward mobile app payment systems and how their attitudes mediate these four variables on continuance intention. Partial Least Square (PLS) was used to analyze the data collected from 310 Indonesian millennials. Individual mobility was a strong factor influencing millennial attitudes toward mobile app payment services, followed by usefulness of the apps and value-for-money. Emotional value did not influence millennial attitudes toward the payment apps. The current research provides useful insights into millennials' attitudes toward mobile app payment services. Managers and decision-makers can take into account the following insights in order to enhance millennials' positive attitudes and continuance intention toward mobile app payment services.

Keywords: Attitude towards mobile apps payment, continuance intention, usefulness mobile apps, value for money, Emotional value, individual mobility

1. INTRODUCTION

Rapid technological advancements have allowed people to create new devices that can change the way of life of their users. One of these devices is the feature-laden cellular phone. Smartphones are now used not only for voice communication, but also for taking photos, checking and sending e-mails, and even for buying and selling things. Currently, the trend of using electronic money in Indonesia is growing.

A report by the *Jakarta Post* in 2019 [1] revealed that the Indonesian fintech industry is currently dominated by local players. The top five e-wallet apps based on monthly active users from the Google Play Store and iOS are GoPay, OVO, DANA, LinkAja, and Jenius. These Indonesian e-wallets are competing for pieces of a pie that is poised to grow 16-fold from $1.5 billion in 2018 to $25 billion by 2023, according to a recently published Redseer report. The report also sayid that Go-Pay has the greatest market share, followed by OVO, and then by T-Cash.

Indonesia had a population estimated at 270.63 million in 2019, up from the 2015 estimate of 257 million. About 56.7% of Indonesia's population lives in Java Island, the most populous island with a total workforce of 128.06 million [2]. A large population is a development asset which, if managed optimally, will produce high quality human resources. The explosion of the productive age population (15–64 years) during the upcoming Demographic Bonus will bring benefits that can boost the national economy. In terms of employment, the Demographic Bonus will be very kind to the growing millennial population.. And these millennials are enthusiastic users of cell phones. In 2015,

82.64% of millennials used cell phones. This percentage increased in the following years to 83.51% in 2016 and 91.62% percent in 2017. This increase is occurring not only among millennials, but also among the population in general.

The importance of this study can be seen from at least two viewpoints. First, discussions were still limited about the subjective usefulness of mobile apps, value-for-money, emotional value, individual mobility, and attitudes, especially in the context of using mobile apps to pay for services. Therefore, this study could fill a gap in the literature. Second, this present study focused on Indonesian millennials, who will become the majority generation within the structured demographics in Indonesia. This research formed a basis from which to explore this huge potential market. The purpose of this research was to help understand the relationship between the usefulness of mobile apps, value-for-money, emotional value, and individual mobility that focuses on conducting mobile app payments, as well as the attitudes toward such conducts, particularly among Indonesian millennials.

2. THEORETICAL BACKGROUND

The Technology Acceptance Model (TAM) was introduced by Fred Davis in 1986 to analyze the factors that influence the acceptance of computer technology [3]. TAM is the result of the Theory of Reasoned Action (TRA), which was developed by Fishbein and Ajzen in 1980 [4]. TAM attempts to estimate the user's acceptance of an information system. TAM explains the causal relationship between belief (about the benefits of an information system and its ease of use) and the behavior, goals/needs, and actual usage of the system. Individual attitudes about the use of a

particular technology can be clarified by using TAM to describe the intention of consumers to accept a new technology.

Mobile payment apps employ a real-time digital payment system. When doing a transaction, the money paid can be received by the seller within seconds. So, there is no need to carry a lot of money nowadays; it's enough to have a smartphone in order to complete all financial transactions anywhere, anytime. Recently, a study conducted by [5] found that Indonesian millennial tourists cannot be separated from their mobile applications. Their usefulness and convenience encourage a positive attitude towards using the technology for independent traveling. Attitudes are contagious, and when people interact together, they offer their own views and listen to others' opinions. So, when they are accustomed to using mobile applications, they indirectly influence others to behave in the same manner [6]. Continuance intention reflects a user's intention to continue using the system, in this case mobile app payments. [7] showed that the use of mobile applications in tourism marketing is important in influencing behavior to the continuation of intention to use. [8] argued that perceived attitude, entertainment, and control, influence the intention to conduct digital payments.

Recent research conducted by [7] found that tourism companies use the mobile app's usefulness in their marketing efforts. Mobile app users are only willing to accept innovations, if those innovations provide a clear advantage over the existing methods [9]. This study showed that the perceived usefulness of payment applications is higher for the user and will positively influence the millennials' attitudes and intention to use it in the future.

Value-for-money influences a consumer's intention to buy directly because of the ranking of applications and the free alternatives to the paid applications. Another benefit of a digital wallet is its ability to conduct the payments in exact amount. This benefits the seller, because there is no need to provide some money for the change. Therefore, the seller and buyer receive the maximum benefit from the goods and services they obtain with the available resources. [10] stated that value-for-money is the utility derived from the product due to the reduction of perceived short-term and long-term costs. In addition, mobile app users sometimes receive points and bonuses after conducting the payment, which provides even greater benefits.

Emotional value is the utility derived from the feelings or affective states generated by the product [10]. According to [11], attitudes behind a tourist's decision to visit a festival are due to emotional benefits such as entertainment, escape, variety, novelty, and uniqueness. The experience can affect the conscious and sub-conscious emotions. This emotional reaction can occur at any time as positive or negative moments.

Individual mobility is defined as the extent to which a person uses or seeks a service in almost all activities and situations [9,12,13]. The use of smartphones and internet applications by Indonesian travelers has caused disruption in the tourism sector. Basically, people who travel a lot will have more positive attitudes towards the use of cellular payment services along with the highest intention to use it.

The mobile app meets the needs of the mobile lifestyle, because it provides a means of buying and paying wherever and whenever.
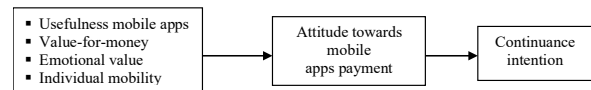

Fig. 1. Proposed research model

Figure 1 presents the proposed conceptual framework. Hence, grounded on all the above-mentioned arguments, the subsequent hypotheses are postulated:

H_1 : Higher usefulness mobile apps increases the millennial's attitude towards mobile apps payment.

H_2 : Higher value for money increases the millennial's attitude towards mobile apps payment.

H_3 : Higher emotional value increases the millennial's attitude towards mobile apps payment.

H_4 : Higher individual mobility increases the millennial's attitude towards mobile apps payment.

H_5 : Higher millennial's attitude towards mobile apps payment increases continuance intention.

3. RESEARCH METHODOLOGY

This study used the Partial Least Squares (PLS) to conduct data analysis, because it is considered to be able to assess the measurements and structural models simultaneously. This study used a self-administrated questionnaire with closed-ended questions. The questionnaire was distributed using non-probability purposive sampling. The object of this study was the mobile payment services, which were GOPAY and OVO. In mid-July 2019, a total of 310 questionnaires were distributed to students studying in Jakarta, Indonesia, through Google's online survey which was conducted via WhatsApp. This application makes it easy to get respondents. It allows them to respond to the survey questions, as well as to ensure that they are people who are online and familiar with the application. The criteria for respondents were that they had prior experience with mobile transactions and had used mobile payment services to pay for transportation, delivery of goods, or street food using GOPAY or OVO.

4. RESULTS

Table 1 Characteristics Sample

		Frequency	*%*
Gender	Male	223	72
	Female	87	28
Age	19 - 21 years old	80	26
	22 - 24 years old	228	74
	25 - 27 years old	2	1
Occupation	Student	111	36
	Student and also employee	199	64
Frequency	1 time per day	96	31
of using mobile	2-3 times per day	202	65
payment services	≥ 4 times per day	12	4

Based on the respondents' profiles, this study found that the majority (72%) was male. They were in the 22-to-24 year age group (74%), and they were students and also employees (64%). Most of them (65%) admitted that they used mobile payment services (i.e GoPay or OVO) as many as 2-3 times per day.

Table 2. Result summary of the measurement model and convergent validity

	Loading		AVE	α	CR
Usefulness of	UMAP1	.847	.674	.879	.912
mobile apps	UMAP2	.801			
payment	UMAP3	.798			
	UMAP4	.813			
	UMAP5	.843			
Value-for	VFM1	.673	.622	.694	.830
-money	VFM2	.865			
	VFM3	.815			
Emotional	EMV1	.846	.735	.820	.892
value	EMV2	.866			
	EMV3	.859			
Individual	IMO1	.779	.701	.858	.903
mobility	IMO2	.855			
	IMO3	.869			
	IMO4	.842			
Attitude	ATMA1	.756	.668	.833	.889
towards mobile	ATMA2	.797			
apps	ATMA3	.840			
	ATMA4	.871			
Continuance	CIN1	.842	.788	.865	.918
intention	CIN2	.927			
	CIN3	.892			

Table 3 Discriminant validity

	ATMA	CIN	EMV	IMO	UMAP	VFM
ATMA	.817					
CIN	.840	.888				
EMV	.740	.745	.857			
IMO	.821	.763	.833	.837		
UMAP	.775	.828	.712	.749	.821	
VFM	.721	.688	.709	.709	.727	.789

Table 4. PLS results of path coefficients and hypothesis testing.

Hypothesized	Path			Std Beta	Std Error	*t*-value	Result
1	UMAP	→	ATMA	.286	.077	3.728	Supported
2	VFM	→	ATMA	.158	.074	2.125	Supported
3	EMV	→	ATMA	.038	.079	0.481	Not Supported
4	IMO	→	ATMA	.463	.083	5.592	Supported
5	ATMA	→	CIN	.840	.024	35.693	Supported

The results of the structural model are presented in Fig. 1. All hypothesized paths were significant, except for H₃. Specifically, ATMA was predicted by UMAP (β = 0.286, *t*-value = 3.728), VFM (β = 0.158, *t*-value = 2.125), and IMO (β = 0.463, *t*-value = 5.592). Hence, H₁, H₂, and H₄ were accepted. However, EMV (β = 0.038, *t*-value = 0.481) did not affect ATMA directly. Therefore, H₃ was rejected. And the last hypothesis, H₅ (β = 0.840, *t*-value = 35.693), was accepted.
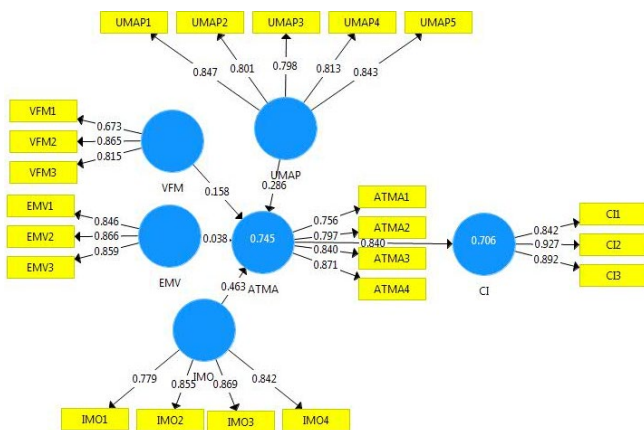

Fig. 2 Structural model

5. DISCUSSIONS

This study aimed to understand how the usefulness of mobile apps, value-for-money, emotional value, and individual mobility affects the attitude to use mobile payment apps and to continue using these apps, particularly among millennials. First, the usefulness of mobile apps was an important determinant of the attitude toward using mobile payments, a finding consistent with those of previous studies in the information system / mobile service context [6,9,12]. Living in the largest archipelago nation in the world, Indonesians are not always easy to buy and sell, especially for those living in outlying areas. The emergence of digital payment technology has made the transactions easy and happen in real-time. For example, travelers don't need to bring a lot of cash, because they can conduct the payments from their phones.

Second, value-for-money and individual mobility were positively related to the attitudes towards using mobile payment. It should be noted that individual mobility had very strong effect on attitude. Millennials who want things

to be better, faster, and at lower prices, are playing a significant role in the digital transformation. Digital transformation is actually already underway, although it has not yet transformed the economy. One of these effects is seen from the users of Whatsapp, Instagram, and Facebook. These young people introduce the technology to older people. Gradually, the older circles adopt digital transactions. Moreover, in e-commerce, the most important successor is the intention to buy and actually pay. Merchants want to make sure that the transaction success rate is as high as possible, to nearly 100%. When a customer has the intention to buy and pay directly, the transaction is successful. But if the customer pays to the ATM first, the success of the transaction may drop to 50%. That's why value-for-money allows users to get more benefits.

On the other hand, emotional value was not significant. The reason this study found no significant influence of perceived emotional value on the attitudes towards mobile app payments may be due to a millennial's individual personality which influences their taste, satisfaction, and experience. This is difficult to control. In order to win the minds and hearts of customers, one must provide unique and enjoyable experiences in addition to meeting their needs.

Lastly, consistent with the previous TAM studies [6,9,12], this research found that the attitude towards mobile app payments had a direct influence on consumers' continuance intention to use the services. The attitudes towards mobile applications are contagious, and when people interact, they share their interest, desires, and experiences with one another.

6. CONCLUSIONS

The current research provides various insights into millennials' attitude toward mobile app payment services. Managers and decision-makers can use these insights to instill positive attitudes and continuance intentions of millennials toward mobile app payment services. These services form one of the pillars for achieving digital economic transformation. For the infrastructure to be ready, the traders must also be ready. The benefits increase if digitally integrated transactions can occur anytime, anywhere, and if the money can be received immediately.

Nevertheless, there were some limitations in this study. First, this research could not generalize the results and findings as this research applied a non-probability sampling method (purposive sampling) due to the unknown

population. Next, this research only focused on the Indonesian millennials' attitude through social media in the services industry and may not be applicable to other industries. In order to enable future research with minimal limitations, the study can be done by using a probability sampling method, so that the results can be generalized to the whole population. Subsequently, the researchers could have broadened the area of the study by focusing on other industries.

Acknowledgment

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