

## INTENTION TO USE M-WALLET APPLICATION: AN ADJUSTED MEASUREMENT OF FACILITATING CONDITIONS

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### ABSTRACT

**Introduction:** M-wallets have become the most prominent financial technology in Indonesia. Thus, discerning the behavioral intention of using m-wallet apps and the related determinants is essential. This study proposes an extended indicator for facilitating conditions to fill the identified gap in previous studies. The influence of facilitating conditions on usage intention is also examined.

**Methods:** This study employed PLS-SEM to validate our proposed indicator and research hypothesis. 122 m-wallet users in Madiun participated as the research respondents. Data from the respondents was analyzed through reflective and structural assessments.

**Results:** The findings identified that the QR code policy was valid and reliable as an indicator for facilitating conditions. Through the structural model assessment, the impact of facilitating conditions on usage intention was found to be significant.

**Conclusion and suggestion:** As a novel contribution, this study has provided the QR code policy as an extended indicator. In this situation, the government plays a consequential role in increasing m-wallet penetration. Moreover, m-wallet providers are suggested to take into consideration facilitating conditions, including user guidance and smartphone compatibility.

### INTRODUCTION

With the growth in the necessity for cashless payments, mobile wallet (m-wallet) utilization has increased rapidly. As a new alternative payment method, m-wallets allow individuals to execute their transactions through a smartphone application (George & Sunny, 2021; Senali et al., 2023). M-wallets have several benefits, such as reducing cash handling risk, shortening transaction time, and providing cashback (Syifa & Tohang, 2020;

Tun, 2020). Payment transactions through m-wallet apps in Southeast Asia are estimated to make up approximately \$114 billion USD by 2025, as reported by CNBC (2023). According to Katadata (2022), 74% of Indonesian society choose m-wallet apps over mobile banking (24%), Virtual Account (16%), and other payment methods.

Due to the economic prospect of m-wallet adoption, the behavioral intention topic in this context has gained attention in recent years (Abdul-Halim et al., 2022; Nawi et al., 2022; Senali et al., 2023; Tusyanah et al., 2021). Furthermore, the behavioral intention to use m-wallet apps is greatly impacted by facilitating conditions, as elucidated in previous works (Chawla & Joshi, 2020; Ly et al., 2022; Ojo et al., 2022; Shane et al., 2022; Tusyanah et al., 2021). Conducted in different settings, these works have proven the crucial role of facilitating conditions. Empirical tests have been held in Malaysia (Ojo et al., 2022; Shane et al., 2022), India (Chawla & Joshi, 2020), and Vietnam (Ly et al., 2022). These studies also reveal that facilitating conditions have become the responsibility of both m-wallet providers and governments.

While most prior studies have shown there to be a significant impact due to facilitating conditions on m-wallet usage intention, a handful of studies have presented contradictory outcomes. According to a study in Egypt involving 576 m-wallet users, facilitating conditions have no significant influence on behavioral intention (Esawe, 2022). Other related studies by Bohari et al. (2022), Tun (2020), and Yang et al. (2021) in three different countries have also demonstrated the same result. This identified research gap led us to evaluate the measurement items of the facilitating conditions (FC) construct. We recommend the quick response (QR) code policy as an extended indicator in said construct.

The recent study aims to corroborate QR code policy as a proposed indicator and to re-examine the influence of FC on behavioral intention. QR code adoption has become a complementary option for e-wallet usage in studies by Chang et al. (2021) and Ifada & Abidin (2022), but discussions related to its policies in the m-wallet context are still rare. Furthermore, this study makes some contributions, including theoretical and managerial aspects. First, identifying the QR code policy as an extended indicator will generate new insight into the existing m-wallet literature. Second, this study tries to fill the mentioned research gap by providing empirical evidence of the facilitating conditions' impact on the user's behavioral intention. Lastly, the results of this study relate to the decisions going to be made on future improvements.

## LITERATURE REVIEW

M-wallet payments are a prevalent form of fintech services in Indonesia, along with other services such as mobile banking, P2P lending, and mutual funds. According to

Nawi et al. (2022), m-wallet refers to a financial app installed on a smartphone where everyone can save their money and execute online payments. Cashless transactions using m-wallet apps in Indonesian society have risen to 92%, as stated by Visa (2024). Based on the proportion of active users, the top three m-wallet providers in Indonesia are GoPay, DANA, and OVO (Populix, 2022). The prompt expansion displayed by m-wallet providers in Indonesia is ascribed to their partnership with state-owned banks, ride-hailing services, and e-commerce.

Similar to other modern technologies, m-wallet usage intention is situational, and some related theories are available on this subject. This study used the unified theory of acceptance and use of technology 2 (UTAUT2) by Venkatesh et al. (2012) as the underlying theory. The UTAUT2, developed for consumer-based cases, is an extended framework for better generalization. Based on a comprehensive review of other earlier user acceptance models, the initial UTAUT by Venkatesh et al. (2003) has four independent variables (performance expectancy, effort expectancy, social influence, and facilitating conditions). Several new relationships have been proposed and examined in the UTAUT2, one of which is the direct effect of FC on behavioral intention.

Unlike within the organizational context, FC for consumers may be highly variable across providers, application versions, and device configurations (Venkatesh et al., 2012). In this circumstance, the consumers' intention to use an application depends on the ease of accessing FC, such as mobile internet and system knowledge. Using this point of view, users with a higher level of FC will have a higher intention to use m-wallet. Recent empirical results have supported the mentioned relationship based on the UTAUT2 model (Dhingra & Gupta, 2020; Farzin et al., 2021; Ly et al., 2022). Thus, our study underpins the following hypothesis:

**H1.** Facilitating conditions positively influence the intention to use m-wallet applications.

### **Involving QR Code Policy into FC Measurement**

Returning to the earliest stage of UTAUT development, facilitating conditions (FC) have become one of the variables adopted in predicting personal computer usage. The FC concept, adopted from the framework of personal computer utilization by Thompson et al. (1991), refers to organizational support and technical infrastructure. In the initial UTAUT model, the FC construct involves four measurement items, specifically resource, knowledge, assistance, and compatibility (Venkatesh et al., 2003). Persons who have the necessary resources and knowledge related to system usage may have a higher possibility of being users. Furthermore, assistance availability and technical compatibility have been operationalized to accommodate barriers to using the system (Moore & Benbasat, 1991).

In the m-wallet context, there are measurement adjustments undertaken to pursue consumer-based needs (Chawla & Joshi, 2020; Duy & Giang, 2022; Nawi et al., 2022). For example, Chawla and Joshi (2020) employed regulations related to user data

security as an indicator for measuring FC. Meanwhile, this study proposes the QR code policy as an extended indicator due to the following reasons. First, the government's commitment to increasing the level of financial inclusion has encouraged QR code usage in the daily transactions of Indonesian society (Puspitasari & Salehudin, 2022). In line with that commitment, m-wallet providers have already equipped payment transactions through the QR code feature. This feature provides convenience for m-wallet users to help them accomplish their payments (Nam, 2021; Zhong & Moon, 2022). Secondly, the adoption of QRIS (as Indonesian official QR code) shows a significant growth trend. The presence of QRIS will support the sustainability of m-wallet usage as a payment tool.

## RESEARCH METHODS

### Data Analysis

The current study set out to validate the QR code policy as an extended indicator, as well as to assess the proposed hypothesis. Partial least squares structural equation modeling (PLS-SEM) was employed to achieve these objectives. PLS-SEM approach has become widely popular in some business studies, such as marketing, accounting, and consumer behavior (Guenther et al., 2023; Sarstedt et al., 2022). As a multivariate-based technique, PLS-SEM is suitable for exploratory purposes (Hair et al., 2019). Essentially, PLS-SEM consists of two evaluation stages, the reflective model and structural model measurement. The measurements were needed to assess the research indicators and proposed hypothesis.

### Measurement Scale

The research indicators were adopted from previous works with adjustments for the m-wallet context. FC in this study reflects the extent to which users perceive the existence of the technological, infrastructure, and government support to use m-wallet apps (Chawla & Joshi, 2020; Nawi et al., 2022). We employed four indicators to measure the FC construct, three of which were operating guidance, compatibility, and internet connection (Ly et al., 2022; Yang et al., 2021). The last FC dimension in this study was the proposed indicator, namely QR code policy. Behavioral intention refers to the users' perceptions regarding the likelihood of using m-wallet apps (Albayati et al., 2020). Three indicators were applied to assess the behavioral intention to use m-wallet, including future usage, personal advice, and convenience belief (Jameel et al., 2022; Senali et al., 2023). All measurement items were delivered based on a 10-point Likert scale. This rating was selected to prevent a gray area issue.

**Table 1. Reflective model assessment results**

Construct (Indicator)	Loading	Cronbach's Alpha	Composite Reliability
Facilitating Conditions		0.710	0.820
- Guidance about how to use m-wallet is easy to find on social media and websites.	0.791		
- My smartphone has specifications that meet the requirements of m-wallet apps.	0.757		
- The internet connection that I have used is able to accommodate m-wallet usage.	0.617		
- The government has established a QR code standard for m-wallet transactions.	0.747		
Intention to Use		0.711	0.835
- I intend to use m-wallet apps to conduct future transactions.	0.894		
- I recommend the use of m-wallet apps to people around me.	0.626		
- I believe that m-wallet apps bring convenience to completing daily transactions.	0.842		

Source: Processed data (2024)

### Data Collection

This study applied the purposive sampling method to collect suitable respondents. According to [Taherdoost \(2016\)](#), purposive or judgmental sampling is a procedure used to get important information through a pre-determined particular setting. Sample characteristic refers to the m-wallet users who have executed transactions in the last two weeks. An online questionnaire was gradually distributed using Google Forms to eligible m-wallet users in Madiun. The distribution period of our formulated questionnaire was from February to March 2024. As a result, 122 responses to the questionnaire were gathered for the PLS-SEM analysis. This study adopted the inverse square root method by [Kock and Hadaya \(2018\)](#), where the prospective estimation of 111 was determined to be the minimum sample size. Hence, the requirement of the minimum sample size was met.

### RESULT AND ANALYSIS

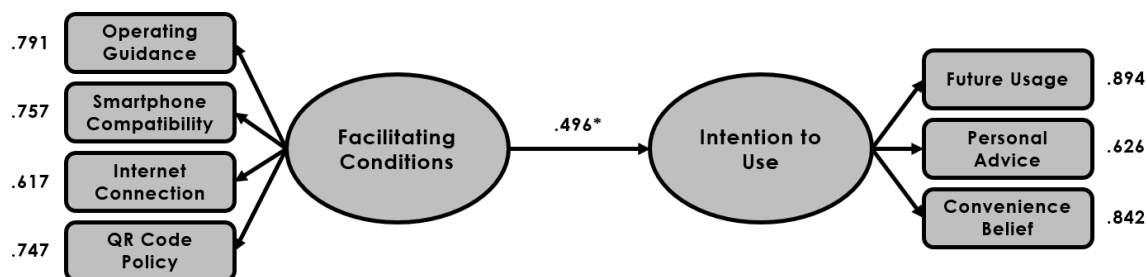
Table 2 represents the demographic details of the respondents in this study. Most of the respondents were identified as female (61.48%). The most common age group among the respondents was below 21 years (64.75%). Over half of the respondents were observed to be students (64.75%). Regarding the most utilized m-wallet application, about 41.80% of respondents used ShopeePay. In brief, our research sample was relatively unequal in terms of age and occupation because the majority of m-wallet users were young. The demographic profiles are relevant according to previous m-wallet studies ([Bohari et al., 2022](#); [Ly et al., 2022](#); [Yang et al., 2021](#)).

**Table 2. Demographic profiles of the respondents**

Profile	Description	Frequency	Percentage
Gender	Male	47	38.52%
	Female	75	61.48%
Age	Below 21	79	64.75%
	21 - 30	15	12.30%
	31 - 40	21	17.21%
	Above 40	7	5.74%
Occupation	Entrepreneur	14	11.48%
	Employee	29	23.77%
	Diploma Student	79	64.75%
Most used apps.	GoPay	28	22.95%
	OVO	43	35.25%
	ShopeePay	51	41.80%

Source: Processed data (2024)

The first analysis process in this study was the reflective model assessment, where the reliability and validity of each measurement item was examined. Table 1 reveals that all values, both Cronbach's alpha (CA) and composite reliability (CR), met the cut-off value for internal reliability. We employed the suggested cut-off value of 0.70 for CA and CR (Hair et al., 2017). Furthermore, the validity examination process consisted of convergent validity and discriminant validity. The value of indicator loading was used to examine the convergent validity. According to Hair et al. (2017), the value of all indicator loadings should be greater than 0.50. As presented in Table 1, the values of all indicator loadings ranged from 0.617 to 0.894. It means that the convergent validity requirement has been achieved. To assess the discriminant validity, we used the resulting HTMT ratio. Hair et al. (2017) advised that the HTMT ratio between the latent constructs should not exceed 0.850. Due to the HTMT ratio being identified as 0.659, discriminant validity was met.



**Figure 1. PLS-SEM model**

Source: Processed data (2024)

After completing the reflective assessment phase, we conducted the structural model assessment using the bootstrapping procedure. The estimated path coefficient of our structural model is presented in Figure 1. According to Hair et al. (2017), the

significance of the path coefficient was confirmed using the resulting t-value. As reported in Table 3, FC has a positive and significant influence on the intention to use m-wallet apps, since the resulting t-value is greater than 2.57. Due to the resulting Q<sup>2</sup> value being higher than zero, the predictive relevance of our structural model has been met (Hair et al., 2017).

**Table 3. Structural model assessment results**

Hypothesis (Path)	$\beta$	t-value	Q <sup>2</sup>	Decision
FC → Intention to Use	0.496	8.061	0.145	Accepted

Source: Processed data (2024)

### QR Code Policy as an Extended Indicator

Our proposed indicator for measuring facilitating conditions received empirical support. According to the first-stage evaluation results, QR code policy was identified as a valid indicator. Compared to the previous studies, it stands out as an essential finding in the m-wallet context. A possible explanation for this finding may be due to the following reasons. First, QRIS usage as a government policy has shown great acceptability related to the convenience aspect (Ediputra & Amalyah, 2022; Puspitasari & Salehudin, 2022). The existence of QRIS has made non-cash transactions more integrated. Through this QR code adoption, users from various payment providers are allowed to execute their transactions quickly. Second, according to Saripudin et al. (2023), QRIS has gained the trustworthiness of Indonesian cashless society. In this context, QRIS provides secure operations due to the encryption and authentication schemes in place.

### FC's Influence on Intention to Use

The purpose of this current study was to assess the impact of facilitating conditions on the intention to use m-wallet applications. In contrast to earlier findings by Bohari et al. (2022); Tun (2020); Yang et al. (2021), this study found there to be a significant impact due to FC. The empirical findings of this study might be explained by the following reasons. First, the availability of FC factors, such as operating guidance, will enhance the users' knowledge of m-wallet usage. It is able to reduce resistance and shape behavioral intentions. Second, the infrastructure and regulations in Indonesia have accommodated m-wallet usage properly. This condition has been proven by the historical trend of the fintech sector (Anshari et al., 2020). Third, the majority of our respondents were categorized as Generation Z. They often choose to use the newest smartphones and exhibit a high level of technological self-efficacy (Rosli et al., 2023). Thus, the implementation of m-wallet apps is relatively well accepted.

## CONCLUSION

This study confirms the significant role of facilitating conditions in shaping m-wallet usage intentions. Moreover, the empirical results in this study have the following theoretical and managerial implications. First, a novel contribution to the extant literature, pinpointing QR code policy as an extended indicator for FC, has been provided. It reveals that government policy plays an important role in m-wallet acceptance. Second, this study found that operating guidance and smartphone compatibility are the top two indicators for FC. Thus, m-wallet providers should consider these aspects to make payments easier, safer, and faster. A number of limitations exist in the current study, which calls for further research. First, the size of the data sample can be regarded as a limitation. Future studies should use larger samples for better data analysis. Second, our model was developed only to explain FCs role in shaping behavioral intention. Moderating variables might be considered in future investigations.

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