

# Role of Device Features towards Purchase Intention Using Mobile Commerce

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## Abstract

This paper presents the role of device features to adopt mobile commerce (m-commerce) with an extended technology acceptance model (TAM) that integrates few other variables. The proposed model has been empirically tested using data collected from a survey of selected sample of respondents. The survey consists of questionnaire responded by 233 students with 97% response rate among students in located in, Malaysia. Data were analyzed by employing descriptive analysis, correlation and multiple regression analysis, besides other common analysis technique. Findings indicated that device features are positively associated with user intention to adopt m-commerce. The finding contributed in terms of allowing us to understand the determinants that influence the adoption of mobile commerce.

**Keywords:** Device Features, Mobile Commerce

## 1. Introduction

Information Communication and Technology has undergone the spectacular development across the region, which has contributed to the world involvement of information and innovation together with the expansion of massive business growth. The advancement of technology and communication exposed people to vary option of device and facilities experience better daily life. Nowadays, people are becoming familiar with the rapid growth of technology through the usage of Internet and mobile device with better infrastructure.

Mobile technology is rapidly growing with some features embedded in each innovation, especially the usage of smartphones and tablets [1]. Besides, the well infrastructure of the network became a major factor contributing to the mobile service performance. Well development of mobile technologies has provided bright future of business opportunity besides, enhanced user business activities [2]. M-commerce has established alternatives in business industries with integration of internet and mobile technology.

This study targeted to provide extensive information on the business organization that recently focusing on developing mobile or internet purchase methods which indicate the behavioral and technical issue involving the consumers and providers.

### 1.1. Mobile Commerce

The recent combination of mobile application and e-commerce has delivered new trends of conducting business transaction called m-

commerce [3]. It can be defined as a transaction conducted through wireless devices (mobile) with the integrate of the internet. Term wise m-commerce defined any transaction conducted through a variety of mobile equipment over a wireless telecommunication network in a wireless environment [4].

The mobile subscribers have already surpassed 5 billion users worldwide [5]. This presented the growth of this new trend towards commerce industries. This new trend of business influenced by the rapid growth of personal computers and the Internet created opportunities for e-commerce, which lead to introduction of m-commerce [6]. Moreover, the development of e-commerce in the countries is differs compared to each other due to the different stage of internet and mobile technology maturity, network provider and user perspective.

### 1.2 Device Features (Df)

Previous studies have perception towards hardware and software features which highlighted the potential usage [7]. Df representing the hardware features that being built for the user which foresee to encourage the user intention to adopt the m-commerce [8]. Device feature considered as the value which might consist of the screen and display features, screen resolution, device speed performance and functional fit keypad which match with the m-commerce platform [9]. This variable should establish new indicator where it perceived inclination among the user to adopt m-commerce. This study posits that:

*H1: Device features have a positive and significant relationship with m-commerce adoption.*

### 1.3 User Intention to Adopt M-Commerce

This is dependent variable which portrayed the overall relationships. User intention refers to consumer perception or intention of mobile commerce adoption to proceed to actual use [10]. This study will be identified the factors which lead to the user intention to use m-commerce. Various models have been developed in investigating this purpose as being emerged in other studies. The origin of this model derived from the Technology Acceptance Model (TAM) which initiated by [11]. Based on the basic form, this model has emerged in implementing towards the measuring information system (IS) user perception including m-commerce user perception.

## 2. Methodology

For this study, questionnaire being developed as the research instrument which is the use of a pre-formulated and written set of questions which answered by the respondents. There were 240 questionnaires distributed and 233 returned with the response rate of 97%. The questionnaire was adopted from previous studies with some adjustment in term of item development. This questionnaire consists of 52 items to measure each variable and dependent variable excluded demographic items. The SPSS being used to analyze each variable to transform raw data into a significant figure form that would make the data easy to understand and descriptive information while correlation and multiple regression analysis being used to test research hypotheses and to determine the predictors. According to [12], Cronbach's alpha is a measure the reliability coefficient which indicates the extent to which the items in a set are positively correlated to one another. In this study, the Cronbach's alpha technique being used because this study uses 5-point Likert-scale method in a questionnaire that form a scale and to determine if the measurement items are reliable. If the test conducted show that the Cronbach alpha value is greater than 0.7, therefore the instruments used are reliable.

## 3. Findings

Internal reliability and consistency of the items has been tested using a Cronbach alpha technique which has been set if the value retrieved is greater than 0.7, the result of the analysis can be accepted and considered as reliable Device features is one of the independent variables which consist of seven items. The scale produced an alpha 0.786 satisfy the minimum requirement of the scale in determining the reliability of the instrument. Table 1 shows the details seven items selected to measure this reliability of the variable.

Based on analysis, average mean scores by these items allocate

under device features indicate the acceptable value which is 3.441. This also reflects the efficiency of instruments in getting a reliable understanding among respondents in order to test this variable whether it affects the dependent variable or not. It is also shown that, the respondents agree with the characteristics of the variable. Item DF7 scores the highest mean value with a score of 3.537 while item DF4 scores the lowest mean value which is 3.416.

### 3.1 Device Features (Df) and Intention to use (Iu)

The Pearson correlation coefficient value between VOS and Intention to Use indicates the significant relationship between these two variables which is 0.515. According to [13], this value shows the strong relationship between the two variables. Table 4, depicts the detail output related to these two variables. This result is accepted and supports the hypothesis as below:

H1: Device features have a positive and significant relationship with m-commerce adoption

## 4. Conclusion

Device feature (DF) also was found to be one of the strongest predictors to use m-commerce among respondents. Device feature is referring to the device technology design characteristics which imply the user intention to adopt m-commerce. It might be because; the users are more concern to use the mobile device with user-friendly specification which allows them to view and experience the m-commerce to the optimum level.

Well performed device anticipated to offer a better experience in using m-commerce to the users. As mentioned earlier, the respondents involved are among youngsters or to be specific students where it is anticipated that this group of people who are more exposed to the technology advancement compared to earlier generations. Most of the respondents can be classified as generation Y which might explain to this finding where they concern to have better and suitable device to use m-commerce, which covers on the screen quality, the speed of the device also in term of access quality. This highlight if the user is able to have or use a suitable device with some features and specification, it will enhance their intention to use m-commerce. The results somehow are consistent with [14] who conduct almost the same research in India. Device features (DF) will totally provide input to developer to enhance the device design idea which suits with the user expectation. It is suggested to have more research industries to enhance their roles in gaining special specifications of device design to cater user needs in the future. Compared to the e-commerce application, m-commerce is mobility and should be able to support by any kind of suitable portable device. This might increase the industry performance while promoting the application of m-commerce.

**Table 1:** Descriptive Statistic on Device features

Item Code	Item	N	Mean		Std. Deviation	Variance
			Statistic	Std. Error		
DF1	Display quality motivates me to adopt m-commerce websites	233	3.39	0.051	0.781	0.61
DF2	I have not had any limitations or problems in watching information displayed by m-commerce services	233	3.382	0.053	0.812	0.66
DF3	The size of mobile device screen encouraged me to use m-commerce services	233	3.391	0.054	0.824	0.679
DF4	Device performance speed motivates me to view information provided in m-commerce websites	233	3.416	0.051	0.779	0.606
DF5	Device's memory storage affects my interest to use m-commerce	233	3.519	0.056	0.856	0.733
DF6	Device keypad design motivates me to use and access m-commerce websites	233	3.455	0.052	0.787	0.62
DF7	The device design encourage me to use m-commerce	233	3.537	0.057	0.866	0.75
	Valid N (listwise)	233				

**Table 2:** Correlation Table of DF

		Device Features	Intention to Use
Device Features	Pearson Correlation	1	.515**
	Sig. (2 - tailed)		.000
	N	233	233
Intention to Use	Pearson Correlation	.515**	1
	Sig. (2 – tailed)	.000	
	N	233	233

\*\* Correlation is significant at the 0.01 level (2 – tailed)

**Table 3:** Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.595	.239		2.485	.014
	Device Features (DF)	.165	.074	.153	2.211	.028

a. Dependent Variable: overall\_INTENTION USE

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