

## **Deveoleping the Model on Factors Influencing Intention and Actual Use of Mobile Marketing Services In Malaysia**

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### **Abstract**

Research on mobile marketing services is very paramount and helps to explain the acceptance as well as the understanding of the actual usage level of mobile marketing services. Most past studies have focused only on explaining intentions and generally assuming that they are good predictors of behaviour. Thus, there is still a lack of research to explain the acceptance of mobile marketing and the understanding of customer's usage behaviour of the technologies. Due to the high cost of developing the infrastructures in the telecommunication industry there is need for this study to bridge the gap in mobile marketing. This study proposes a framework by decomposing attitude and further focused on perceived usefulness, perceived ease of use, perceived compatibility, perceived image and personal innovativeness. In all, 334 full-time university students from four public universities in the Northern Region, Malaysia have participated in this study. Self-administered survey questionnaires were utilized to collect data, which was subsequently analyzed using Structural Equation Modelling (SEM). The study revealed that intention to use and attitude to using mobile marketing services positively and significantly affect the actual usage of mobile marketing services. Perceived image of using mobile marketing services had a significant and positive relationship on attitude towards using mobile marketing services. and finally, personal innovativeness and attitude showed no significant effect on attitude towards using the technology. Based on the results, the model provides unique insights on the factors that influenced the intention to use and the actual usage of mobile marketing services and suggestions for future studies.

**Keywords:**Decomposed theory of planned behaviour, mobile marketing services, acceptance, perceived risk, actual use

## Introduction

The worldwide mobile phone users are recorded as 3 billion marked in late 2007, more than 4 billion in 2008 and about 5.07 billion from 2013 to 2019 [1]. The bulk of growth in the worldwide users' base is expected to continue to come from growing markets like Asia Pacific Region, Africa, the Middle East and Latin America. Mobile technologies have the potential to create new markets, change the competitive landscape of business, create new opportunities, and change existing community and market structures. According to [2], mobile technology is acting as a key driver for rapid information communication technology (ICT) growth in many world regions. There is still lack of research to explain the acceptance of mobile marketing and the understanding customers usage behaviour of the technologies.

Acceptance is important in determining the success of products or services [3]. Understanding consumers' behaviour with regard to mobile marketing services is also an important issue [4]. DTPB is chosen due to its introducing of larger antecedents that influence the main beliefs towards intention to use and usage behaviour. Culture plays a big role in affecting the consumers' affective and cognitive choices of consumption and spending [5] and has a strong impact on individuals' values and lifestyles. Prior studies of mobile marketing acceptance focus only on the intention to use.

Users have strong intention to perform behaviour, but they might not be able to do that without the necessary resources, self-confidence and skills [6]. User's behaviour is also affected by other factors such as the opinions of other people who they think are important to them [7].

This study is distinct from previous studies about mobile marketing services and the actual usage behaviour of consumers in the acceptance of mobile marketing with emphasis on actual usage within the Malaysian context. The result of the study also aided the policy maker as Malaysia will be rolling out 5G in the very near future as it has the multiplier effect to the economy of the country.

Due to equivocal findings in the literature gaps, this study was conducted to provide valuable insights into the significant factors of consumers' attitudes, intentions, and actual use of mobile services and to contribute this know-how to the government to help ensure the country's uninterrupted adoption of the latest technology.

## Literature review and problem statement

The Decomposed Theory of Planned Behaviour (DTPB) suggests that attitude, subjective norm and perceived behavioural control influenced the intention to use technology. [8] expanded the theory by decomposing the attitudinal, normative and perceived control beliefs into multidimensional constructs. The main purpose of developing the DTPB model is to identify whether the decomposition of the basic TPB constructs of a particular dimension can improve predictive capability and understanding of the behaviour of the use of a system.

First, Intention to use the service is defined as the strength of one's intention to perform a specified behaviour [7]. In this study, following [9] behavioural intention or intention to use is referred to respondents' receptiveness and intention to engage in activities such as receiving product or service information related to marketing communications, promotional offers, purchasing or using the product or services.

Secondly, Attitude towards adopting an innovation is generated by the individual's beliefs about the consequences of adopting the innovation. The effect of attitude on the intention to use has consistently been proved by numerous studies such as in information system field [10]. If the individuals form a positive attitude towards mobile marketing services, they will have a strong intention towards adopting mobile marketing. Another study by [11] has also revealed that attitude positively influenced the behavioural intention to use instant messaging services. Prior studies have proved that the effect of attitude on behavioural intention which in turn will affect behaviour.

Third, perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance his or her job performance [12]. According to [13], it is irrational for the researchers to assume that the effects of perceived usefulness (PU) and perceived ease of use (PEOU) would be similar for different technology. It is anticipated that the effect of PU will be different in mobile context. In consideration those findings and the effects of perceived usefulness towards influencing the attitude towards using the mobile marketing, it is proposed that consumer's perception of the usefulness associated with mobile marketing positively influenced the attitude to Use mobile marketing services.

Forth, the effect of perceived ease of use on attitude has been established by various studies [14]. This study projects a positive and significant effect of perceived easy-use and attitude to use mobile marketing services.

Fifth, review on perceived Compatibility and Attitude to use mobile marketing services. [14] defined compatibility as the extent to which consumers believe that mobile marketing services can be integrated into their daily lives. In study such as [15], it has been declared that compatibility is the strongest influence on mobile payment adoption. This present study anticipates that consumers perceive mobile marketing as compatible with their values of daily lives which will be expected to have a positive attitude towards using the phone marketing services. Additionally, studies also proved that compatibility significantly and positively affects the attitude towards using a technology [16].

Six, perceived image refers to the degree to which the adoption and the use of an innovation are perceived by users to enhance their image or status in their social system [17]. [18] has stated that the most important motivation for almost any individual to adopt an innovation is the desire to gain social status [1]. Since mobile marketing services will bring the mobile phone users with additional services apart from conversation and SMS, the individual consumers who adopt the marketing services might feel that they themselves are either trendy or technology savvy and socially up-dated.

Seven, review on personal innovativeness and attitude to use mobile marketing services. [11, 19] state that personal innovativeness positively affects attitude towards using the technology. Other study by [20] found that the factor of personal innovativeness predicts adopting technological technologies. Thus, considering the relative infancy of some mobile marketing services such as TikTok, it is appropriate to test innovation as an influencing antecedent of attitude under marketing services.

This study examines the acceptance of mobile marketing services by measuring the consumer's intention and actual usage of marketing services. Grounded by the Decomposed Theory of Planned Behaviour (DTPB), this study proposes a framework by decomposing attitude. It focused on perceived usefulness, perceived ease of use, perceived compatibility and perceived image and personal innovativeness. The DTPB is a framework that helps explain the

acceptance as well as the understanding of the actual usage level of such services. In view of that, the fundamental problem that motivated this study is what factors determine consumers acceptance and the usage of mobile marketing services, by examining how intention to use influence consumers attitude and actual usage of mobile marketing services among university students.

## **The aim and objectives of the study**

The aim of the study is to examine the factors effecting of intention to use and how intention of use influence on consumers' actual use of mobile marketing services.

To achieve this aim, the following objectives are set to accomplish it:

- to investigate Intention to use mobile marketing services and the actual usage of mobile marketing services;
- to investigate Attitude about mobile marketing positively affects the intention to use mobile marketing services;
- to investigate the antecedents that affect the attitude towards using the technology.

## **Materials and methods**

This study's population consists of students from four public universities in the northern region of Peninsular Malaysia, namely Universiti Utara Malaysia (UUM), Universiti Sains Malaysia (USM), Universiti Malaysia Perlis (UniMAP), and Universiti Teknologi MARA, who use prepaid or post-paid services for mobile marketing services (UiTM). The university students were chosen due to their familiarity with mobile marketing and their upbringing in the technological era. Using a quantitative cross-sectional approach, responses from respondents were obtained using a simple random sampling technique. The questionnaires contained multi-item scales adapted from prior research and modified to fit the context of the study. Respondents were asked to rate their level of agreement with each item on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), and the questionnaire was self-administered. Out of the 800 questionnaires administered using the 20 subjects per variable method [21] only 334 responses were usable for further analysis, yielding a valid response rate of 57.49 percent, which deem suitable for data analysis. The data were analyzed by means of CFA implemented via Structural Equation Modeling (SEM) and Analysis of Moment Structure (AMOS).

This Study Used The Structural Equation Modeling (Sem) To Analyse The Data Collected From The Questionnaires That Were Distributed To Respondents On How Intention To Use Influence Consumers' Actual Use Behaviour Of Mobile Marketing Services. The Sem Is Regarded More Appropriate For This Study Due To Its Superior Technique As It Allows For The Specification And Testing Of Complex Path Models As Is Also More Rigorous And Flexible Than The Comparable Techniques Based On Multiple Regression.

## **Results of examine the factors effecting of intention to use**

### ***5. 1. Research Objective 1: to examine Intention to use mobile marketing services and Actual Use of mobile marketing services***

To investigate Intention to use mobile marketing services and the actual usage of mobile marketing services. The first objective on the relationship between Intention to Use and Actual Use of mobile marketing service led to the Hypothesis 1: Intention to use mobile marketing

services positively affects the actual usage of mobile marketing services. This study has found that behavioural intention ( $\beta=0.40$ ,  $p<0.001$ ) significantly affects actual mobile marketing usage. The result supports the hypothesis 1.

**5. 2. Research Objective 2: to examine Attitude about mobile marketing positively affects the intention to use mobile marketing services**

To investigate Attitude about mobile marketing positively affects the intention to use mobile marketing services. To answer the question on the relationship between Attitude and Intention to Use mobile marketing services, the study hypothesis was that. Hypothesis 2: Attitude positively affects the intention to use mobile marketing services. As expected, attitude ( $\beta=0.55$ ,  $p<0.001$ ) was found to have a significant positive effect on the intention to use mobile marketing services.

**5. 3. Research Objective 3: to examine the antecedents that affect the attitude towards using the technology**

To investigate Perceived usefulness affects the attitude towards using the technology. In answering the hypothesis on the relationship between Perceived Usefulness and Attitude to using mobile marketing services thus; Hypothesis 3: Perceived usefulness of using mobile marketing services positively affects the attitude towards using the technology. Based on the results, perceived usefulness ( $\beta=0.14$ ,  $p<0.10$ ) is found to have a significant positive effect on attitude towards using mobile marketing services.

To investigate Perceived ease of use affects the attitude towards using the technology. To answer the research question hypothesised as, Hypothesis 4: Perceived ease of use in using mobile marketing services positively affects the attitude towards using the technology. The result reveals that perceived ease of use ( $\beta = -0.079$ ,  $p>0.10$ ) does not significantly affect the attitude towards using the technology. Therefore, hypothesis 4 in this study is not supported.

To investigate Perceived compatibility of using mobile marketing services affects the attitude towards using the technology. Regarding Hypothesis 5 that: Perceived compatibility of using mobile marketing services positively affects the attitude towards using the technology. The result of this study supports the hypothesis that compatibility ( $\beta=0.31$ ,  $p<0.001$ ) affects the attitude towards using the technology.

To investigate Perceived positive image of using mobile marketing services affects the attitude towards using the technology. In terms of Hypothesis 6: Perceived positive image of using mobile marketing services positively affects the attitude towards using the technology. The statistical result obtained in this study shows that perceived positive image ( $\beta=0.35$ ,  $p<0.001$ ) has a significant and positive relationship attitude towards using mobile marketing services. Therefore, hypothesis 6 was supported and supports the results put forward by this study [12].

To investigate Personal innovativeness of using mobile marketing services affects the attitude towards using the technology. On the relationship between Personal Innovativeness and Attitude with Hypothesis 7 that posits that: Hypothesis 7: Personal innovativeness of using mobile marketing services positively affects the attitude towards using the technology. The result on the relationship between personal innovativeness and attitude showed a dissimilar result from prior findings where personal innovativeness ( $\beta=0.07$ ,  $p>0.10$ ) was found to have insignificant relationship on attitude towards using mobile marketing services. Therefore, hypothesis 7 was not supported in this study.

The research hypotheses are summarized in Table 1 below. Five hypotheses (H1, H2, H3, H5 and H6) out of the total of seven hypotheses tested were found to be significant.

**Table 1** *Hypothesis Testing Summary*

No	Hypothesis	Status
1	Intention to use mobile marketing services positively affects the actual usage of mobile marketing services	Supported
2	Attitude about mobile marketing positively affects the intention to use mobile marketing services	Supported
3	Perceived usefulness positively affects the attitude towards using the technology	Supported
4	Perceived ease of use positively affects the attitude towards using the technology	Not Supported
5	Perceived compatibility of using mobile marketing services positively affects the attitude towards using the technology	Supported
6	Perceived positive image of using mobile marketing services positively affects the attitude towards using the technology	Supported
7	Personal innovativeness of using mobile marketing services positively affects the attitude towards using the technology	Not Supported

The study revealed that intention to use and attitude to using mobile marketing services positively and significantly affect the actual usage of mobile marketing services, while perceived usefulness did not have a significant positive effect on attitude towards using mobile marketing services. Also, how people thought mobile marketing services would be used had a significant and positive effect on how they felt about using them. Finally, personal innovativeness and attitude had no significant effect on how people felt about using the technology.

## Discussion of the factors effecting of intention to use

This research investigates three primary objectives. First, relationships between Intention to use mobile marketing services and Actual Use of mobile marketing services. Second, the relationship between the attitude toward mobile marketing and the intention to use mobile marketing services. Third, the antecedents that influence the attitude toward the technology.

[22] find that intention is expected to influence the technology usage of university students in Malaysia. The results also support [8] (prior studies that compares TAM, TPB and DTPB which have proved that behavioural intention is the primary and direct determinant of behaviour).

This finding validates the work of earlier studies on the effect of attitude on intention to use the technology [23]. The result also suggests that the formation of positive attitude towards using mobile marketing services has to take place before the technology can be accepted.

Findings are consistent with previous research on the relationship between perceived usefulness and attitude. The effect of perceived usefulness on attitude has also been found in several other studies. The positive relationship between perceived usefulness and attitude in this study is also consistent with previous findings of [24], who reported that perceived usefulness had significant direct positive influence on attitude.

The insignificant result provided mixed support for the importance of perceived ease of use. Previous study [25] had found that perceived empowerment of telecommunication technological technologies had a positive effect on the consumers attitude towards using the technology. Most of the respondents in this study are between the ages of 18 to 23 years old who used mobile marketing service such as to download ring tones, video, wall paper etc an activity common to them since they are familiar with the feature of the services.

Study by [26] revealed that mobile marketing services can be stimulated by enhancing the compatibility of the technology with the users' existing value, needs and lifestyles. The mobile service providers can do this by designing their products or services via mobile that aligns with the students' lifestyles.

[27] found that the higher the consumers perceived using mobile marketing enhance their personal image, the greater their attitude towards using the technology. Mobile service providers can make use of celebrities or opinion leader as spokesperson for the mobile marketing services. Personal innovativeness does not significantly influence the attitude towards using the technology. This result contradicts with previous finding in [28].

Limitations: Use of students as sample is limited to generalize this finding to non-student population. Sample size was not adequate to all mobile users and cannot be generalized to all age groups. Future studies might overcome some of these limitations by using new sampling frame with a larger population of mobile phone subscribers.

## Conclusions

1. This study outlines an acceptance model based on the decomposed theory of planned behavior to determine the factors that influenced the adoption of mobile marketing [8]. The decomposed theory provides a larger set of antecedents that can better explain the intention to adopt a technology and usage behavior of mobile marketing services, thereby enhancing the study's theoretical and practical contribution.
2. This study investigated the actual usage level of mobile marketing services, as well as the relationship between intention and actual attitude or behavior regarding the use of mobile marketing services. In addition, the study found that approximately 15.3 % of the total variance in actual usage was explained, which is comparable to other studies [11, 29] with 15 % and 16 % of total variance respectively. Thus, it can be concluded that the decomposition of the core beliefs yields greater understanding of the specific factors that influence behavior. Significant theoretical, methodological, and practical contributions have been highlighted, along with identified limitations and suggestions for future research directions, based on the findings of the study.
3. This study has also decomposed the main beliefs (i. e. attitude, subjective norm, perceived behavioural control and perceived risk) into multi-dimensional constructs. The findings also suggest that the three antecedents of attitude namely perceived usefulness, compatibility and perceived image play significant role in building positive attitude towards using technology.

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