

Malaysian Consumers' Attitude towards Mobile Advertising and its Impact on Purchase Intention – A Structural Equation Modeling Approach

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Abstract - The purpose of this study is to understand the consumers' attitude towards mobile advertising and its impact on their purchase intention. Prior to that, this study also examined the effect of purchase factors on the consumers' attitude. The proposed conceptual model was based on the abstract ideas of the Theory of Planned Behavior and the Consumers' Purchase Decision Model. The model was tested using data collected among the mobile phone users throughout Malaysia. The convenience sampling technique was applied and produced 856 usable responses. Results of the Structural Equation Modeling (SEM) confirmed that there were significant relationships between the proposed predictors and the attitude towards mobile advertising. The analysis also revealed that the consumers' attitude has a significant relationship with their intention to purchase the advertised products and services. This study validated the importance of each dimensions in purchase factors such as products and services, price, and timing to shape the attitude of the consumers. It also adds to the growing literature of the mobile advertising research in Malaysia. Most importantly, this study portrays several implications for the theory and practice relating to the future development of the mobile advertising industry in this country.

Keywords – Consumers' Attitude, Mobile Advertising, Purchase Factors and Purchase Intention.

I. INTRODUCTION

IN the world of business, a modern and creative advertising strategy plays an important role to enhance the sales volume of a company, nurturing the relationship, stimulating the awareness and shaping the attitude of a consumer [1][2]. Advertising is not limited to an ordinary business but also practiced by many nonprofit organizations, public agencies and professionals. For years, advertising has been regarded as a fine technique to inform, to remind and to persuade consumers about products and services. Advertising add value

to many businesses by changing consumers' perception and commonly applied as a vehicle to execute promotional campaigns. Without advertising, a business may lose its brand equity, reputation and perhaps, its market share [3][4]. In an effort to serve and win the consumer's heart, various types of new marketing approach exist in the marketplace. Generally, traditional advertising still play its role as a popular advertising technique applied by most of the organizations around the world [3][5]. Many promotional activities execute messages about products and services through newspapers, television, radio, magazines and billboards either in a standard format or creative messages. However, as the business environment is currently becoming more competitive, more and more companies orchestrating a closer harmony between their advertisement messages and mobile communication technology [6][7]. This new electronic advertising concept is commercially known as mobile advertising [8].

According to the white paper published by Smaato in 2010, the mobile advertising industry in developed countries is expected to extend its remarkable take off from 2011 onwards [9]. Based on its current trend, the cumulative revenue for five European countries namely France, Germany, Italy, Spain and UK are estimated to achieve US\$\$ 1.293 billion by 2015. These big five countries will also experience an increment in revenue by 950 percent between 2010 and 2015 with the compound annual growth rate of 48 percent. Among these countries, UK continues to hold the position as the largest and the most advanced market. On average, each company in UK spends around US\$\$ 15,000 to US\$\$ 20,000 per annum on the campaign. Meanwhile, other companies resided in France, Germany, Italy, and Spain spends approximately US\$\$ 10,000 to US\$\$ 15,000 every year. The cumulative total revenue for the big five country is estimated to achieve US\$\$ 122.55 million. By the end of the year 2011, the European's mobile advertising revenues are expected to reach US\$\$ 212 million [9].

Based on the recent market development, Japan and USA remain their position as the market leader in this industry. Besides that, South Korea and China have been identified as the next lucrative market for mobile advertising. The total expenditures for companies in both countries are US\$\$ 270

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million and US\$\$ 180 million respectively [8][10]. As the biggest market in the world, the mobile advertising expenditure in Japan is around US\$\$ 1 billion every year. On the other hand, USA is blessed with its 'mobile' population exceeding 300 million. The market is currently worth at US\$\$ 797.6 million and expected to rise up to US\$\$ 5.04 billion by the year 2015 [8]. In 2010, it was reported that nearly one-sixth or 49 million USA mobile phone subscribers engaged with mobile advertising. From that figure, 12.9 million subscribers act in response towards the advertisement and purchase the offered items [8]. Due to that reason, global brands such as Nike, Adidas, Procter & Gamble, Microsoft, Coca-Cola, Walt Disney, Sony Pictures, and McDonalds have taken necessary steps to participate in this industry. Two to three percent will be allocated in their annual marketing budget to promote products and services through mobile advertising [8][11].

Within the context of Malaysia, the Malaysian Communications and Multimedia Commission (MCMC) report in 2010 disclosed that the penetration rate of mobile phone was 108.8 percent [11]. The numbers of mobile phone subscriptions for post-paid were 6.5 million while subscriptions for prepaid were 18.6 million. In the second quarter of 2010, the total numbers of SMS activities were 89.4 million thus indicating a bright potential for Malaysia's mobile advertising activities [11]. With the phenomenal growth rate of digital media, the Association of Accredited Advertising Agents Malaysia (4As) presumed that more companies will move into this industry soon because this approach offers a more reasonable platform to reach consumers effectively [12]. This statement is supported by the Universal McCann Malaysia [13] which claimed that, Malaysia ranked fifth out of twenty one concerning consumers' receptivity in the mobile advertising emerging market.

Rationally, with such a great number of mobile phone penetration rate in Malaysia, it is easy to utilize the mobile advertising activities among millions of mobile phone users at anytime. Unfortunately, the scenario appears to be in a reverse direction. Despite remarkable opportunities claimed by many quarters [13][14], the attitude towards mobile advertising must be comprehensively examined [15][16]. A wise understanding on this issue is essential to ensure an effective use of mobile advertising in the future.

II. THE DEVELOPMENT OF CONCEPTUAL FRAMEWORK

Innovation always perceived by many people as the engine for economic growth [14][17][18]. However, to make sure that such innovation acquires the economic significance, it has to be brought into the economy, followed by gradual adoption from the consumers [19]. Like innovation, diffusion is not a trivial process and it does take a long period of time. No new innovations have an economic impact until it becomes widespread in the economy [19].

The attitude towards mobile advertising and intention to purchase has emerged as an interesting topic to explore. For example, a study by [20] found that there was a direct relationship between consumers' attitude and their future behavior.

Behavior is shaped by a person's attitude and intention [21]. Prior to that, it is the belief that shapes a person's attitude [21] and consumers' belief toward an attitude is multi-dimensional [22][23]. In determining potential dimensions of the attitude, reviews of literatures were done on a number of theories and models including The Model of Purchase Decision Process [24] and The Theory of Planned Behavior [21]. Accordingly, this study proposes the following conceptual model shown in Figure 1 which incorporates the related factors discussed in this article.

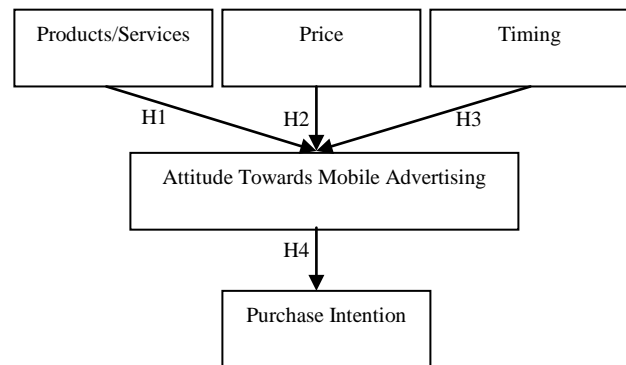


Figure 1. Proposed Conceptual Framework

A. Products and Services

Consumers usually purchase products and services based on their "feel" or "think" process [25][26]. Therefore, general characteristics of a product such as its attribute, branding, packaging, labeling, and service is essential, especially at the elementary stage [27][28][29]. Consumers also pay a great attention on the prestige of a product, product fit, and the degree of familiarity [30]. Familiar brand that aligned with their norms, values and beliefs will be permitted by them [31]. Meanwhile, product's rational appeal may also create a significant effect on the consumers' attitude [32]. Studies conducted by [30] and [32] suggested that many consumers prefer to engage with products that require low purchase involvement, price, and risk. Past studies pointed out that products and services offered in mobile advertising positively affect the consumers' attitude [30][32][33][34].

Therefore, within the context of mobile advertising, it is expected that the dimension of products and services positively influence the consumers' attitude. Thus, it is hypothesized that:

H1: Types of products or services offered in mobile advertising positively influence the consumers' attitude.

B. Price

Before making a decision, it is common that consumers carefully look at the price of the products and services [29]. They prefer a reasonable price at the time of business transaction. Hence, it is important for business to set the price based on the degree of satisfaction that consumers expect to receive from products and services [29]. Price always emerge as one of the significant determinants upon consumers' decision to engage with mobile advertising [35][36]. Clear and reasonable price with special incentives may stimulate consumers to re-think about benefits that can be derived from it [30][35]. Previous studies indicated that consumers' view about price and quality leads to perceived value. Perceived value will then influence their further behavioral intention [37].

The dimension of price has a significant impact on the consumers' attitude [38]. According to [33][39] and [40], the price of media acts as one of the drivers towards the acceptance of mobile advertising. This is due to the financial constraint faced by many consumers. A study by [36] disclosed that low price of mobile service transaction has a favorable impact on the perceived value, loyalty and profitability of a business. [41] also found that consumers portrayed a positive linear result between price of the products and services, perceptions on quality and willingness to purchase. In the conventional marketing, consumers not necessarily purchase the highest level of products and services. There are several other dominant factors such as price, value, convenience and accessibility [42][43].

As a consequence, it can be assumed that the dimension of price in mobile advertising has a significant effect on the consumers' attitude. Therefore, the next hypothesis is proposed as follows:

H2: The price of products and services has a positive effect on the consumers' attitude towards mobile advertising.

C. Timing

The question of when and whether the purchase activities happen to be often affected by timing factors [24]. Therefore, the ability of a business to provide products or services appear to be one of the prerequisites or otherwise the attitude of the consumers will change [24]. In marketing, timing factors can be regarded as the primary drivers behind the success of various types of business transactions [24]. On the other hand, consumers can read and response to a particular advertisement at their preferred time [38]. Consequently, the ability to provide the best advertisement during the right time with sufficient numbers of repetition will stimulate the consumers' behavioral attitude and maintain its exclusivity [30][32][44]. The idea to minimize consumers' effort to purchase products and services by distributing the advertisement at the right time and place also helps to stimulate consumers' behavioral attitude [27]. Prior studies revealed that the timing of an advertisement has a significant positive effect on the consumers' overall attitude [32][36][41][45][46]. According

to [47], consumers' ability to recall and recognize a particular advertisement is according the exposure time. The higher the exposure time, the higher will be the advertisement recall and recognition rate [28][48][49]. In fact, the repetition of an advertisement during an appropriate time positively correlated with consumers' rate of recall [47][50]. From the literatures related to advertising, consumers have an aversion to a long and time consuming advertisement [38].

Therefore, within the context of mobile advertising, it is expected that the dimension of timing also portray a favorable effect on the attitude of a consumer. As a result, the relationship is hypothesized as follows:

H3: Timing of an advertisement has a positive effect on the consumers' attitude towards mobile advertising.

D. Attitude towards Mobile Advertising

Due to the recent development of a mobile telecommunication technology and its ubiquitous characteristics, mobile advertising is expected to become as popular as the internet marketing [51]. Parallel to that, consumers' attitude is one of most important dimensions in mobile marketing research [52]. A number of advertising studies revealed that consumers who have positive attitudes on advertising will also portray the same attitude upon any specific advertisements and very much easier to be persuaded [52][53][54][55]. It also means that if they have negative attitude towards general advertising, they will portray a negative reaction against mobile advertising [32][56].

The Theory of Planned Behavior [21][57] postulated that the more favorable the attitude with respect to a behavior, the stronger will be an individual's intention to perform the behavior under consideration. A study by [23] disclosed that consumers' attitude towards mobile advertising became a significant factor that influences consumers' intention to receive and read mobile advertisements. Meanwhile, a multivariate analysis conducted by [20] revealed that consumers' attitude significantly correlated with their intention to receive mobile advertisement. The attitude towards advertisement also played a vital role towards their willingness to access the advertisement [58]. In fact, the dimension of attitude portrayed the highest magnitude of regression weight thus indicating that it was the most determining factor of consumers' behavioral intention to click the advertisements [58].

There were also studies related to the attitude towards general advertising and mobile advertising on the behavioral intention to use mobile marketing services [52][59]. [60] studied the attitude towards accepting wireless advertisements and their intention to adopt SMS advertisement. The result signified that the attitude towards accepting the wireless advertisements turned out to be significant predictors on the intention to opt-in to SMS advertising [60].

Therefore, it is predicted that Malaysian consumers' attitude towards mobile advertising has a significant relationship with their intention to purchase products and services. This gives

rise to the next hypothesis:

H4: Consumers' attitude towards mobile advertising has a significant relationship with their intention to purchase products and services.

III. RESEARCH METHODOLOGY

This study is based on the data from written surveys administered in 2012. The centre of attention is given to the mobile phone users resided in thirteen states and three federal territories in Malaysia. According to the statistics produced by MCMC in 2010, about 73.7 percent mobile phone users in Malaysia live in the urban area while 26.3 percent in the rural area [11]. To make the data more meaningful, this research includes both prepaid and postpaid mobile phone users.

As this study sought to test the proposed conceptual model, some of the survey instruments were adapted and modified from the previous studies. The survey contained several constructs related to the consumers' attitude towards mobile advertising and purchase intention, including products and services, price and timing. Prior to administering the survey, it was reviewed by five experts from the industry and university lecturers for clarity and applicability to the topic investigated. Overall, the survey designed 29 questions to gauge the consumers' attitude as well as classification questions related to gender, age and education level. Each construct was represented by Likert scale items adapted from the previous studies or developed for this study where necessary.

A total of 856 responses were obtained during the months of November 2011 to April 2012 through a convenience sampling approach. Selangor, Johor and the Federal Territory of Kuala Lumpur indicate the highest percentage of response, which is 133 responses (15.5%), 93 responses (10.9%) and 90 responses (10.5%) respectively. The respondent characteristics are as follows: 59 percent were male and 41 percent were female; respondents ranged in age from 20 to 60 years, although the majority - 58.4 percent of the respondents - were between 20-40 years old; 62.1 percent were the school leavers, certificate or degree holders, while 37.9 percent of the respondents hold a doctorate degree.

IV. ANALYSIS

Overall, there are five constructs representing the independent and dependent variables portrayed in Figure 1. To validate the measures of the constructs, a series of Confirmatory Factor Analysis (CFA) using AMOS 20.0 was conducted to test the dimensionality, reliability and convergent validity of the measured items. CFA for the individual constructs were conducted at the initial stage – one measurement model per construct. In stage two, all constructs were simultaneously tested to obtain the overall measurement model. Figure 2, Table 2a and 2b show the results of the overall measurement model containing factors for all constructs. The fit indices collectively show adequate fit of the measurement model with the data [61]. In stage three, the final constructs were then

simultaneously tested to obtain the structural model.

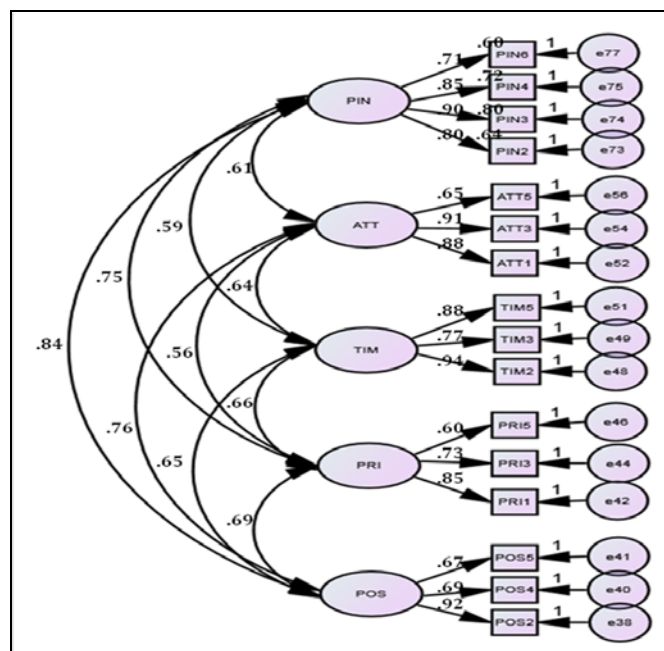


Figure 2. The Overall Measurement Model

Table 2a. Confirmatory Factor Analysis (Std. Loadings)

Measured Items		Standardized Loadings
<i>Products & Services</i>		
POS2	Mobile advertising offer brands that are important to consumer	0.92
POS4	Mobile advertising offer highly prestige products and services	0.69
POS5	Mobile advertising offer products and services that are fit with consumers lifestyle	0.67
<i>Price</i>		
PRI1	Mobile advertising provide a clear price for each product and services	0.85
PRI3	Mobile advertising offer products and services that is value for money	0.73
PRI5	There is no hidden cost in mobile advertising	0.60
<i>Timing</i>		
TIM2	Mobile advertising present an appropriate number of exposures	0.94
TIM3	Mobile advertising present a reasonable length of advertisement	0.77
TIM5	Mobile advertising is disseminated to consumers at the right location	0.88
<i>Attitude towards Mobile Advertising</i>		
ATT1	Mobile advertising is a good platform to get ideas about products and services	0.88
ATT3	Mobile advertising is favourable	0.91
ATT5	Engagement with mobile advertising is fun	0.65
<i>Purchase Intention</i>		
PIN2	I will keep mobile advertising for future purchase reference	0.80
PIN3	I will encourage others to purchase products and services	0.90
PIN4	I will consider the advertised products and services as the first choice	0.85
PIN6	I will contact the advertiser to obtain more information about products and services	0.71

Table 2b. Confirmatory Factor Analysis (Fit Indices)

Items	χ^2	P	AVE	A
POS	9.38	0.00	0.60	0.89
PRI	8.93	0.00	0.54	0.85
TIM	8.26	0.00	0.75	0.93
ATT	8.16	0.00	0.67	0.91
PIN	9.91	0.00	0.68	0.93

Notes:
 1. Measurement model fit indices: $\chi^2 = 168.53$, $df = 120$, $p < 0.01$, RMSEA = 0.063, GFI = 0.94; IFI = 0.93; NFI = 0.96; TLI = 0.95; CFI = 0.95; AGFI = 0.93 [61][62].
 2. This table reports the results of CFA after the deletions of some measured items.
 3. χ^2 = Chi-Square; p = Significance Level; α = Cronbach's Alpha; AVE = Average Variance Extracted [61].

All path coefficients from latent constructs to their corresponding measured indicators were appropriately high (standardized loadings ranging from 0.60 to 0.94) and significant. The reliability coefficients and Cronbach's Alpha all exceeded the recommended cut-off value of 0.60 [62][63], showing evidence of acceptable reliability among the remaining items for all constructs. The Average Variance Extracted for all constructs were higher than the cut-off level of 0.50 suggesting an adequate convergent validity [61].

V. RESULTS

The Structural Equation Modeling (SEM) of the conceptual model was tested using AMOS 20.0. The fit indices show an adequate fit between the conceptual model and the data obtained from the survey. Based on the values depicted by Table 3, the index of RMSEA, GFI, IFI, NFI, TLI, CFI and AGFI provide a sufficient amount of evidence to support the model [61]. The RMSEA was lower than the cut-off value of 0.08, suggesting a good model fit [29]. The incremental fit indices of NFI, TLI, CFI and IFI were reported as above than 0.90 [61][64][65][66] hence providing further support to the model. The results in Figure 3 and Table 3 also show that all hypotheses received significant support based on the given data.

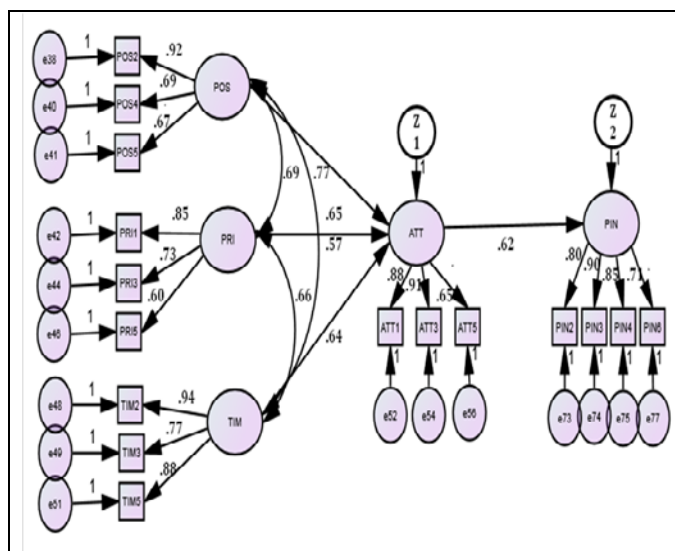


Figure 3. The Overall Structural Model

Table 3. Results of the Model Using SEM

	Hypotheses	Effect	Results	Coef. Corr.	Strength Mtd
H1	POS→ATT	Positive	Supported	0.765	Large
H2	PRI→ATT	Positive	Supported	0.566	Large
H3	TIM→ATT	Positive	Supported	0.640	Large
H4	ATT→PIN	Positive	Supported	0.615	Large

Notes: Structural model fit indices: $\chi^2 = 174.63$, $p = 0.00$; $df = 146$, $p < 0.01$, RMSEA = 0.067, GFI = 0.95; IFI = 0.94; NFI = 0.96; TLI = 0.95; CFI = 0.96; AGFI = 0.94 [61][62].

VI. DISCUSSIONS & IMPLICATIONS

This study adds to the growing mobile advertising literatures on Malaysian mobile phone users by examining their attitude and intention to purchase the advertised products and services. The study reveals several implications for theory and practice relating to the determinants of the consumers' attitude derived from thirteen states and three federal territories in Malaysia. It also gives an idea about the relationship between the consumers' attitude towards mobile advertising and their intention to purchase products and services.

A. Theoretical Implications

Findings from this study extend the current mobile advertising literatures in two areas. First, the findings reported here illustrate the role of the antecedent factors including products and services, price and timing related to the development of the attitude towards mobile advertising within the context of Malaysia. In the meantime, the dimension of the attitude towards mobile advertising played a significant role to influence the consumers' intention to purchase products and services. Second, the proposed model and instruments used in this study have been designed, measured and validated from the perspective of Malaysian consumers.

B. Factors Related to the Attitude towards Mobile Advertising

This study indicates that all proposed determinants have a significant influence on the Malaysian consumers' attitude towards mobile advertising which in turn led to their intention to purchase products and services. Taken together, the findings support past research by illustrating the importance of products and services, price and timing in shaping the consumers' attitude.

The dimension of products and services was found to produce the largest strength magnitude ($r=0.765$) on the consumers' Attitude towards Mobile Advertising. Within the context of Malaysia, mobile advertising should offer products and services that are familiar and require less involvement. Consumers also prefer mobile advertising that offer products and services that is important and in accordance to their preferences.

The dimension of price was found to produce a positive impact ($r=0.566$) on the consumers' attitude towards mobile

advertising. It is noteworthy to set the price based on the degree of satisfaction that consumers expect to receive from the products and services [29]. The result supports the notion that price always emerge as one of the important determinants upon consumers' decision to engage with mobile advertising [35] and has a significant impact on their attitude [38]. Malaysian consumers always view that price must be reasonable, affordable and value for their money.

The dimension of timing has a large magnitude of relationship ($r=0.640$). It is important to distribute the advertisement at the right time and right place to ensure the success of mobile advertising. This result was paralleled to the previous studies which revealed that an appropriate advertisement time and frequency of exposure will increase consumers' rate of recall and shape their attitude [47][67].

C. Attitude towards Mobile Advertising and Purchase Intention

The dimension of the attitude towards mobile advertising was found to produce a positive relationship ($r=0.615$) with the consumers' purchase intention. The result was quite different from the actual scenario that happens in Malaysia due to its infancy stage and the issue of trust that embedded in consumers' mind [11][18]. However, the outcome was similar to the studies conducted in developed countries [20][23]. Perhaps, changes in the consumers' view could be due to the latest advancement of smartphones and other sophisticated mobile devices. The rapid development in telecommunication infrastructure also contributes to the changes [17][68]. The results have shown a brighter future for the mobile advertising industry in Malaysia. Due to its current condition, the intention to purchase the advertised products and services will become as high as developed countries such as Japan, USA, UK and Korea [8][9][10].

Based on the results produced by the measurement and structural model, the Malaysian consumers' attitude towards mobile advertising is now changed. Future research might examine the moderating effect of demographic variables (i.e. age, gender and education) between the independent variables and the attitude towards mobile advertising. Another area that can be examined is the effect of the consumers' attitude towards mobile advertising on the other behavioral intentions or behavioral actions. Further analysis could also be done in the other Asian countries to discover differences and similarities concerning the consumers' perception towards mobile advertising. Assessment in this area will be valuable for further development of mobile advertising in Asian countries. This study indicates that all proposed determinants have a significant influence on the Malaysian consumers' attitude towards mobile advertising which in turn led to their intention to purchase products and services. Taken together, the findings support past research by illustrating the importance of products and services, price and timing in shaping the consumers' attitude.

VII. CONCLUSION

This study has advanced knowledge by addressing the key determinants of the attitude towards mobile advertising and its

impact on purchase intention. Based on the abstract ideas derived from the Theory of Planned Behavior (TPB) and the Purchase Decision Model, it is believed that the research model is more realistic and reliable within the context of Malaysia.

Data for this study were collected throughout Malaysia from a different range of age and gender. The findings provide useful guidelines for the telecommunication service providers (TSPs) and companies to evaluate their current mobile advertising practices while at the same time discovering areas that need to be changed for profitable returns in mobile advertising investment. In addition to that, this study also encourages the SMEs in Malaysia to utilize the great potential of mobile advertising. In this hypercompetitive world, businesses should react fast against the rapid changing business environment. Businesses should grab the opportunities and take the challenge to compliment their traditional advertising with mobile advertising.

This study adds to the growing mobile advertising literatures on Malaysian mobile phone users by examining their attitude and their intention to purchase products and services. The study reveals several implications for theory and practice relating to the determinants of the consumers' attitude derived from thirteen states and three federal territories in Malaysia. It also gives an idea about the relationship between the consumers' attitude towards mobile advertising and their intention to purchase products and services.

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