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Abstract: - The recent development of a global telecommunication technology provides a new mechanism for companies to promote their products and services. This modern electronic advertising concept is commercially known as mobile advertising. Despite its remarkable opportunities claimed by many quarters, the attitude of Malaysian consumers towards mobile advertising and their intention to purchase the advertised products and services remain unclear. A wise understanding is essential to ensure the effective use of this medium in the future. This study analyzed the influence of purchase factors including the type of products and services, price and timing on the consumers’ attitude towards mobile advertising. Further to that, this study also examined the relationship between the consumers’ attitude towards mobile advertising and their purchase intention. The convenience sampling technique was applied to obtain responses from the mobile phone users throughout Malaysia. It resulted in 856 usable responses. The analysis of Structural Equation Modeling (SEM) confirmed that the proposed conceptual model fits well within the context of Malaysian consumers. The results of SEM demonstrated significant relationships between the proposed predictors and the attitude towards mobile advertising. The consumers’ attitude towards mobile advertising also affects their intention to purchase products and services. The study reveals several implications for theory and practice relating to the future development of the mobile advertising industry in this country.

Key-Words: - Mobile advertising, consumers’ attitude, purchase intention, products and services, price, timing

1 Introduction
The Malaysian business environment is becoming more competitive. In order to remain its competitiveness, many companies strive to maximize their sales volume. Advertisement becomes one of the most popular tools to promote their products and services. To-date, more and more companies orchestrating a closer harmony between their advertisement messages and mobile communication technology. This new electronic advertising concept is commercially known as mobile advertising [1].

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 [2]. 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 indicating a bright potential for Malaysia’s mobile advertising activities [2]. With the phenomenal growth rate of digital media, the Association of Accredited Advertising Agents Malaysia (4As) presumed that more business will move into this industry soon because this approach offers a more reasonable platform to reach consumers effectively [3]. This statement is supported by the Universal McCann Malaysia [4] 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 [5,4], the attitude towards mobile advertising must be comprehensively examined. A wise understanding on this issue is essential to ensure an effective use of mobile advertising in the future.

2 The Development of Conceptual Framework
An innovation such as mobile advertising always perceived by many people as the engine for economic growth [5,6,7]. 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 [8]. 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 [8].

The attitude towards mobile advertising and intention to purchase has emerged as an interesting topic to explore. For example, a study by [9] found that there was a direct relationship between consumers’ attitude and their future behavior.

Behavior is shaped by a person’s attitude and intention [10]. Prior to that, it is the belief that shapes a person’s attitude [10] and consumers’ belief toward an attitude is multi-dimensional [11,12]. In determining potential dimensions of the attitude, reviews of literatures were done on a number of theories and model including The Model of Purchase Decision Process [13] and The Theory of Planned Behavior [10]. Accordingly, this study proposes the following conceptual model shown in Figure 1 which incorporates the factors discussed below.

![Figure 1: Proposed Conceptual Framework](image)

2.1 Products & Services
Consumers usually purchase products and services based on their “feel” or “think” process [14,15]. Therefore, general characteristics of a product such as the attribute, branding, packaging, labeling, and service is essential, especially at the elementary stage [16,17,18]. They also pay a great attention on the prestige of the product, product fit, and the degree of familiarity [19]. Familiar brand that aligned with norms, values and beliefs will be permitted by them [20]. Meanwhile, product’s rational appeal may also create a significant effect on the consumers’ attitude [21]. Studies conducted [21] and [19] suggested that many consumers prefer to engage with products that require low purchase involvement, price, and risk.

Due to that reason, it is expected that the dimension of products and services positively influence the consumers’ attitude towards mobile advertising. Thus, it is hypothesized that:

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

2.2 Price
Before making a decision, it is common that consumers carefully look at the price of the products and services [18]. 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 [18]. Price always emerges as one of the significant determinants upon consumers’ decision to engage...
with mobile advertising [22,23]. Clear and reasonable price with special incentives may stimulate consumers to re-think about benefits that can be derived from it [22,19]. The dimension of price has a significant impact on the consumers’ attitude [24]. 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.

2.3 Timing
The question of when and whether the purchase activities happen to be often affected by timing factors [13]. Therefore, the ability a business to provide products or services appear to be one of the prerequisites or otherwise the attitude of the consumers will change [13]. In marketing, timing factors is regarded as the primary drivers behind the success of various types of business transactions [13]. On the other hand, consumers can read and response to a particular advertisement at their preferred time [24]. 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 [21,25,19]. Prior studies revealed that the timing of an advertisement has a significant positive effect on the consumers’ overall attitude [16,21,26].

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.

2.4 Attitude Towards Mobile Advertising
Consumers’ attitude is one of most important dimensions in mobile marketing research [27]. The Theory of Planned Behavior [10,28] 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 [12] 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 [9] revealed that consumers’ attitude significantly correlated with their intention to receive mobile advertisement.

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.

3 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 [2]. 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 a majority - 58.4 percent of respondents - were between 20-40 years old; 62.1 percent were the
school leavers, certificate holders and undergraduate students, while 37.9 percent were graduate students.

4 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. 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 [29]. In stage three, the final constructs were then simultaneously tested to obtain the structural model.

Table 2a. Confirmatory Factor Analysis

<table>
<thead>
<tr>
<th>Measured Items</th>
<th>Standardized Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Products &amp; Services</td>
<td>POS2</td>
</tr>
<tr>
<td></td>
<td>POS4</td>
</tr>
<tr>
<td></td>
<td>POS5</td>
</tr>
<tr>
<td>Price</td>
<td>PRI1</td>
</tr>
<tr>
<td></td>
<td>PRI3</td>
</tr>
<tr>
<td></td>
<td>PRI5</td>
</tr>
<tr>
<td>Timing</td>
<td>TIM2</td>
</tr>
<tr>
<td></td>
<td>TIM3</td>
</tr>
<tr>
<td></td>
<td>TIM5</td>
</tr>
<tr>
<td>Attitude towards Mobile Advertising</td>
<td>ATT1</td>
</tr>
<tr>
<td></td>
<td>ATT3</td>
</tr>
<tr>
<td></td>
<td>ATT5</td>
</tr>
<tr>
<td>Purchase Intention</td>
<td>PIN2</td>
</tr>
<tr>
<td></td>
<td>PIN3</td>
</tr>
<tr>
<td></td>
<td>PIN4</td>
</tr>
<tr>
<td></td>
<td>PIN6</td>
</tr>
</tbody>
</table>

Table 2b. Confirmatory Factor Analysis (cont..)

<table>
<thead>
<tr>
<th>Items</th>
<th>$\chi^2$</th>
<th>$p$</th>
<th>AVE</th>
<th>$\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td>POS</td>
<td>9.38</td>
<td>0.00</td>
<td>0.60</td>
<td>0.89</td>
</tr>
<tr>
<td>PRI</td>
<td>8.93</td>
<td>0.00</td>
<td>0.54</td>
<td>0.85</td>
</tr>
<tr>
<td>TIM</td>
<td>8.26</td>
<td>0.00</td>
<td>0.75</td>
<td>0.93</td>
</tr>
<tr>
<td>ATT</td>
<td>8.16</td>
<td>0.00</td>
<td>0.67</td>
<td>0.91</td>
</tr>
<tr>
<td>PIN</td>
<td>9.91</td>
<td>0.00</td>
<td>0.68</td>
<td>0.93</td>
</tr>
</tbody>
</table>

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 [29,30].
2. This table reports the results of CFA after the deletions of some measured items.
3. $\chi^2 =$ Chi-Square; $p =$ Significance Level; $\alpha =$ Cronbach’s Alpha; AVE = Average Variance Extracted [29].

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 [31,30], 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 [29].

5 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 [29]. 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 [29,32,33,34] hence providing further support to the model. The results in Table 3 also show that all hypotheses received significant support based on the given data.
Recent Technological Advances in Education

6 Discussions and Implications

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.

6.1 Theoretical Implications

The 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.

6.2 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 [18]. The result supports the notion that price always emerge as one of the important determinants upon consumers’ decision to engage with mobile advertising [22] and has a significant impact on their attitude [24]. 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 [35,26].

6.3 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 [2,7]. However, the outcome was similar to the studies conducted in developed countries [9,12]. 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 [6,36].

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 [1,37,38].

Based on the results produced by the measurement and structural model, the Malaysian consumers’ attitude towards mobile advertising is

Table 3. Results of the Model Using SEM

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Effect</th>
<th>Results</th>
<th>Coef. Corr.</th>
<th>Strength Mtd</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 POS→ATT</td>
<td>Positive</td>
<td>Supported</td>
<td>0.765</td>
<td>Large</td>
</tr>
<tr>
<td>H2 PRI→ATT</td>
<td>Positive</td>
<td>Supported</td>
<td>0.566</td>
<td>Large</td>
</tr>
<tr>
<td>H3 TIM→ATT</td>
<td>Positive</td>
<td>Supported</td>
<td>0.640</td>
<td>Large</td>
</tr>
<tr>
<td>H4 ATT→PIN</td>
<td>Positive</td>
<td>Supported</td>
<td>0.615</td>
<td>Large</td>
</tr>
</tbody>
</table>

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 [29,30].

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.

7 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.

References:


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