ABSTRACT

Purpose - The purpose of this study is to build a set of hypotheses and a novel conceptual model around the adoption of mobile payment. In brief, it is to discuss how mobile advertisement effect affects the intention to use the mobile payment.

Methodology - The study aims to apply a partial least squares (PLS) path modeling technique to demonstrate exploring the relationship between mobile trust and involvement along with customers' attitude and mobile payment intention.

Findings - The findings revealed that for the online marketing strategy of mobile advertisement environment, with mobile trust and product involvement, it could be an effective contribution for the online marketers to increase the intention to use mobile payment and customer attitude.

Conclusion - It was concluded that consumers used to receive the mobile advertisement easily. The level of product involvement and customer attitude also influence the credibility toward the consumers, and extend the information to every hierarchy of customers.

Keywords: Mobile advertisement effect, mobile trust, product involvement, customer attitude, mobile payment intention.

JEL Codes: M31, M37, M15

1. INTRODUCTION

In traditional advertising perspective, consumers are constantly faced with the persistent advertising messages in their daily life, so consumers often do not pay close attention to the advertisement messages. Because of this, how to grab customers' attention through the mobile advertisement has become an important issue for the advertisers nowadays. Therefore, there is an ongoing topic of discussion over the issue of mobile advertisement so far and it receives more and more attentions. As results, many organizations strive to find the different ways to communicate with their target audiences by using mobile advertising mediums to get more attention as well as earn extra revenues.

Chief marketing officer Gramigna (2016) pointed out, marketers spent more of their budgets on mobile advertising than desktop tactics in 2015. She also predicts that investments in desktop advertising will continue to steadily decline through 2019. Undoubtedly, nowadays marketers need to be more concern about customers' intention and attitude toward the advertising communications. So the mobile device can be seen as an ideal platform for integrating messages, which creates the relationship bridge and develops direct marketing with each other. However, mobile advertising does not consider the user's interests, users tend to passively accept some advertising contents that they are not interested in, as a result, many users remain offensive attitude to these ads. Only by pushing advertisements based on the analysis of the user's interest, can marketers achieve the effect of advertising?

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In this issue, the authors investigate in depth the antecedents and consequences of mobile advertisement effect, and acceptance of mobile payment; by using a novel research framework to look at the relationship between mobile trust, product involvement, customers' attitude as well as mobile payment intention as mediated in the context of online shopping behavior.

Research has suggested that consumers increasingly expect mobile phone companies to disclose important information so that they can make better purchasing decisions. As a result, the outcome of the investigation may虚拟上 courage advertisers to practice the advertising formats responsibly. Ashraf and Kamal (2010) have proved that mobile's two unique characteristics of interaction and target audience had made it as the most effective medium of advertising. It ultimately allows marketers and advertisers to access the customers virtually via the mobile device anytime and anywhere. Because of this reason, marketers and advertisers are now viewing mobile devices as an ideal platform for marketing communications.

The primary objective of this study is to analyze the antecedents of mobile advertisement in order to determine the influence of each component. Furthermore, there is a lack of empirical studies in academic literature concerning the effectiveness of mobile advertising and the factors contributing to its success (Drossos et al., 2012). This research aims to fill the gap and have a further study on the subsequent attitude and mobile payment intention.

Based on the background and motivation mentioned above, this research questions mainly discusses as below. (1) Through the variable of the mobile advertisement effect, explore how it will ultimately affect the mobile trust and product involvement. (2) Respectively discusses mobile trust and product involvement toward the web advertisement and how they influence the mobile payment intention as well as customer attitude.

2. LITERATURE REVIEW

2.1 Mobile Advertisement Effect and Mobile Trust

Generally speaking, trust is more difficult to build in the mobile environment because of the greater uncertainties and risks among the mobile commerce (Yeh & Li, 2009), therefore, a possible way to solve trust building issues would be transferring trust from existing channels to m-commerce. Empirical studies indicate that several factors are determinants of trust and perceptions of trustworthiness in online and mobile exchanges (Beldad et al., 2010). According to Lin (2011) showed that trust transfer is a cognitive process that may arise from one familiar context to a new context or from one trusted entity to an unknown entity.

Giovannini et al. (2015) mentioned mobile services can then be viewed as being similar to other online or offline services. In short, if consumers trust a certain service or provider, this trust could be transferred to its mobile version. In addition, marketing and e-commerce research indicate that trust transference can occur both intra-channel, when trust is transferred from an entity to another in the same channel (Ballest & Espallardo, 2008), and inter-channel, when trust is transferred from one context to another, mainly offline to online (Hahn & Kim, 2009) or from online to mobile. Despite the importance of trust for mobile commerce, there has been little academic efforts made to investigate the relationships between mobile advertisement effectiveness and mobile trust, or the relationship between previous extant offline trust and online trust, and mobile trust formation.

Mobile advertising helps businesses reach their target audience; it provides advertisers a new opportunity to communicate with consumers more effectively and efficiently in the rapidly growing mobile society (Pagani, 2014). When to mention about the mobile advertisement effect, the interaction will be the key role to pursue the trust value. It is expected that, when a trusted sender sends an ad banner, the influence of advertiser trust would be smaller. People tend to rely on their friends or family members in making decisions and evaluating objects, even when other situational factors are uncertain and risky (Rousseau et al. 1998) because they would likely believe their friends and family members understand their needs and goals and sincerely care about their feelings. However, when an unknown sender sends a mobile advertisement, the recipient's responses to the ad would be more based on other cues, such as the advertiser's reputation. Therefore, based on the previous empirical evidence regarding trust transfer, and move it to the online platform, the authors can propose that:

H1: Mobile advertisement has the positive impact on the mobile trust.

2.2 Mobile Advertisement Effect and Product Involvement

In terms of product-related effects on consumers' perspective, Kannan et al. (2001) proposed that mobile advertising is likely to meaningfully increase the frequency of impulse purchases, especially in low-value or low-involvement product categories. Varnali et al. (2012) recently demonstrated that message relevance improves mobile response rates and facilitates the viral impact. However, subsequent research has failed to provide sufficient evidence on how product involvement and impulse buying tendency interact to affect mobile advertising.

In general, product involvement seems to exert a certain effect on the mobile advertisement. Specifically, individuals faced with products of higher involvement may be more eager to explore more product-specific information. Thus, a possible explanation...
for the advertisement effect of product involvement on consumer attitudes can be found in cognitive resource allocation literature. This argument finds support in Kannan et al.’s study (2007) proposing that the wireless context can significantly increase the frequency of impulse purchases, especially of low-value, low-involvement products. He also argued that, since wireless communication enables instant gratification and immediate fulfillment of a need, this could have a positive impact on consumers’ impulse purchase behaviors. Hence, in light of the studies above, we can propose that:

H2: Mobile advertisement effect positively affects the product involvement.

2.3 Product Involvement and Mobile Trust

When entering a certain website, a higher or lower involvement in purchases over the Internet will influence the types of signals that the individual is likely to consider and also the acceptance they want to adopt within the formation of satisfaction and trust toward that Web site. Therefore, cognitive and experiential signals will have a different impact on trust according to the degree of the product involvement toward the product in online buying.

A consumer who is more involved with a product is more likely to find both the product and its purchase intention. Thus, the consumer is likely to be motivated to make a right decision by avoiding a wrong purchase. In this case, the consumer requires an appropriate level of trust or a certain degree of acknowledging toward the product in order to avoid a wrong buy, through the actively searching and product-related information from a variety of sources toward the Internet. In accordance with this finding of the social judgment theory to the electronic commerce setting leads us to the hypothesis that the customer who involved more toward the product categories, it is likely that the customer has more trust toward the merchant. And thus, the customer will raise more expectation and aspiration to buy the product.

This research illustrated a positive relationship between product involvement and trust expectation; the authors propose the hypothesis given below:

H3: Product involvement positively affects the mobile trust.

2.4 Mobile Trust and Mobile payment intention

Generally, the mobile service provider plays a crucial role in mobile payment transactions. Hence, in the context of the intention to buy from mobile payments, this hypothesis aims at exploring the two dimensions of consumer trust are trust in the mobile service provider and trust in technology facilitated by mobile service provider characteristics and mobile technology characteristics respectively. As of 2015, reported by statista.com, “40% of responding smartphone payment users used their device to pay for food or drinks at quick service restaurants. The American coffee shop chain Starbucks alone has witnessed an almost twofold increase in weekly mobile app payments in the space of only one year”.

The prior literature showed that lack of trust is one of the key reasons for consumers’ decisions not to purchase products from e-commerce sites (Lee, and Turban, 2011). That is, trust can be seen as an informal control mechanism to reduce doubt or suspicion, limit opportunistic behaviors, encourage future transactions and help build long term relationship (Grabner-Kräuter, S., and Kaluscha, 2003). Therefore, to successfully facilitate mobile payment services, it is important to investigate how consumer develops mobile payment trust.

Meharia (2012) have provided a perspective theory to examine trust and mobile payment adoption by incorporating factors from a trust framework developed by the American Institute of Certified Public Accountants (AICPA). Luarn and Juo (2010) examined the role of trust in technology in mobile payment adoption and they find that trust in technology mediates the effect of trust in the firm, perceived usefulness, and perceived ease of use in determining the users’ behavioral intention. Moreover, Chandra et al. (2010) have indicated in examined two broad dimensions of trust antecedents in the mobile payment context, which are the characteristics of the mobile service provider and the characteristics of the mobile technology. They find that those two dimensions of trust antecedents have the significant influence on the formation of consumer trust. Prior studies in the mobile payment context also showed that trust is a key predictor of mobile payment adoption (Zhou, T, 2011). With the raised concern of trust, it has been a critical factor in mobile payment system (McKnight et al., 2002), and also has been a recent topic of research analysis. Thus, in accordance with the increasing importance of trust in mobile commerce (Misra & Wickamasingshe, 2004), trust is proposed in this study as an antecedent variable to the intention to use the mobile payment. Therefore, the authors hypothesize as below:

H4: Mobile trust positively affects the mobile payment intention.

2.5 Mobile Trust and Customer Attitude

The term of the trust is a particularly important mediator among buyers and sellers because viral ad messages have elements of both media advertising and interpersonal communication, which differ greatly in regard to trust (Nan and Faber 2004). The advertiser is the initial source of advertisement messages and to be frank, advertisements are sometimes viewed skeptically because their intention is to persuade consumers to buy a product (Calfee and Ringold, 1994). However, viral messages are
passed on from friends or family members who are seen to have the consumers' best interests at heart. This unique combination can, therefore, make the source of trust a particularly interesting and important factor in determining viral advertising effects. Previous studies have identified multiple stages which consumers must experience before an advertisement message can affect their attitudes (De Bruyn and Lilien 2008). Thus, in order to fully understand the influence of source trust, it is necessary to consider its role at different stages in the transfer of advertisement. Once the customer obtains the trust from the buyers, the customer will expose the different degree of the attitudes, which influenced by the mediators. Research has also found that consumers have a tendency to form positive attitudes toward socially responsible corporations that follow the appropriate role in society (Sen & Bhattacharya, 2001). Based on the prior literature listed above, the study then tests the following hypothesis:

H5: Mobile trust can positively affect the customer attitude.

2.6 Product Involvement and Mobile Payment Intention

As always, financial transactions have been playing an important role through the online transactions among buyers and sellers. Initially, consumers are unacceptable with the idea of m-payment— that is, “the fear of an unknown medium”— they are not even willing to try paying the money toward their mobile device. Although recently enthusiasm and hope about mobile payment services are widespread, people are still fears of security breaches and identity theft toward online transaction; as a result, it takes the time to build the trust on these mobile payment systems. The mobile payment system has the characteristic that it provides many functions on a single mobile phone so that customer can hold the personal and sensitive information stored on that phone that poses a great privacy.

Recently, sellers have been taking lots of efforts to break through customers' defense against using the mobile payment. As a result, research has suggested that a variety of approaches can be used to enhance mobile phone users' motivation to form positive perceptions of mobile payment. One of the most important approaches involves the creation of attractive and interesting messages that will enhance product involvement. In light of the mobile payment intention, marketing communication research has identified product involvement as a crucial component that underlies the degree of information processing (Greenwald & Leavitt, 1984). The researcher pointed (Hayashi, 2012) out, mobile devices could be used for a variety of payments, including person-to-person transfers and purchases on the Internet; this article focuses on the use of mobile payments at brick-and-mortar stores.

Moreover, Greenwald and Leavitt have used psychological theories of attention and levels of processing to establish a framework of audience involvement that is highly related to product involvement. The higher levels require greater product involvement and result in increasingly durable cognitive effects. This situation prompts a deeper product involvement with the mobile payment that enables mobile phone users to engage in accepting the mobile payment. As a result, the study can assume that:

H6: Product involvement positively affects the mobile payment intention.

2.7 Product Involvement and Customer Attitude

Product involvement, Mitchell (1981), especially, has attracted researchers' attention and has been studied under various conditions and frameworks. This study focuses on the mobile advertising channel and addresses the dimensionality of product involvement construct and the effect of involvement on consumers' attitude and intention to use mobile payment. The degree of involvement directs the focus of a person’s thoughts in response to a persuasive communication (Petty and Cacioppo, 1979).

Beyond that, studies have shown that product involvement can influence the decision-making process regarding a product, the extent of the consumer’ search for information about the product, the manner in which the consumer’s attitudes and preferences regarding the product are affected, and the consumer’s perceptions regarding the various alternatives to the same product category (Leclerc and Little, 1997). In addition, various studies demonstrated that a consumer with greater product involvement will be more loyal to a particular brand within the same product category (Iwasaki and Havitz, 1998). Other studies have also found that product involvement is a constant and stable variable relative to many other variables, and that consequently, it may serve the marketer and advertiser over the long term and which will facilitate the consequent customer attitude (Iwasaki and Havitz, 2004). This study investigates the product involvement via mobile trust, customer attitudes, and the intention to use mobile payment. Hence, regarding the studies above, we can propose the following hypothesis:

H7: Product involvement can positively affect the customer attitude.

2.8 Customer Attitude and Intention to Use Mobile Payment

A mobile phone user’s mental acceptance of mobile payment is an important link between attitude and behavioral intention on online platform payment. The stronger the intention, the more likely the mobile phone user will engage in the intended behavior. This assumption of attitude-behavior consistency has been extensively applied to consumer behavior research,
suggesting the consumers’ behavioral intentions are significant predictors of eventual behaviors (Ajzen & Fishbein, 1977). Many prior studies also consider attitude as one of the determinants of mobile users’ behavior and intentions to accept mobile advertising. Lee et al. (2006) indicated that favorable attitudes toward mobile advertising, correlated with strong reasons, would consequently lead to positive actions and intentions. Moreover, Tsang et al. (2004) have already proved a direct relationship between consumer attitudes and the customers’ incentive offered, as well as their intentions and behavior. In brief, attitudes toward behavioral intention are important indicators of the likelihood of a behavior (Finlay et al., 2002). Bagozzi et al. (2001) have examined the existence and functionality of affective–cognitive components of attitude toward the behavior. On this basis of previous literature, authors propose the following hypothesis:

H8: Customer attitude will positively affect the intention to use the mobile payment

In summary, the integrated theoretical framework as represented by H1–H8 is shown in Figure 1 as follow.

3. DATA AND METHODOLOGY

3.1 Sample

The sample is part of the population of whose characteristics are about to be researched and represent the whole population. The samples primarily cover a set of consumers who are actively receiving the mobile advertisement. Still, exploring the relationship between mobile trust and involvement along with customers’ attitude and mobile payment intention are main factors. According to Chin and Newsted (1999), a sample size of 150-200 is required to attain reliable coefficient values using partial least squares (PLS) analysis. Hair et al. (2010) suggested that the ratio of observations to the independent variable should not fall below five, although the preferred ratio is 10 respondents for each independent variable (Yap et al., 2012).
Hence, bearing in mind the 5 variables to be used in SEM, this study requires a minimum sample size of 50 respondents (Ho & Wang, 2015).

Primary Data obtained through the collection of a questionnaire distributed to respondents who able to understand and answer questions given so obtained any information required by researchers. The surveys were distributed online through Facebook, email, and other online communication platforms, and asking respondent questionnaires for one month. The survey took about 15 minutes to complete and started out by briefly summarizing the research topic and explaining the concept of research purpose.

3.2 Data Collection Method

The target group of this study is the people who have viewed the advertisement banners on their own mobile devices when browsing the website. The questionnaires were distributed from two leading social websites nowadays which are Facebook and PTT (the local social website in Taiwan with the huge populations). The research used Google form to make the questionnaires which have the advantage of there’s no limit number of the respondents. In order to stay veracity and keep fairness in this investigation, the questionnaire was made to ensure the respondent answer by their intuition. Therefore, filtering questionnaires were used to make sure the valid samples and a good response rate which can decrease the non-sampling bias in the later processes. Besides, during the process of delivering the questionnaires, the author offered 7-11 coupons as an incentive in order to promote the willingness of filling the questionnaires. The data of this research were primary collected from PTT and Facebook social websites and distributed the questionnaires merely in Taiwan. After almost one-month collection, a total of 345 questionnaires were gathered with no invalid data. In PLS-SEM, the sample size requirement must be at least the times the largest number of structural paths directed at particular latent constructs in the structural model (Hair et al., 2011). Therefore, 345 responses in this study satisfy the minimum size requirement for PLS-SEM.

3.3 Measurement of Variables

The survey questionnaire was developed by adapting measurements from a variety of studies, which is reflecting the solid academic foundation of the constructs operationalized. The questionnaires’ purpose is to identify factors that influence customer attitude and finally the intention of mobile payment. A questionnaire developed with a total of 23 questions, the first section covered mobile advertisement effect with four questions adapted from Schierz et al., (2010). Section two of the survey contained 6 questions to measure mobile trust, which proposed by Gefen (2000). The third section contained 4 questions of the product placement, which proposed by Wu et al. (2011). In section four, mobile payment intention consisted of 4 questions adapted from the study of Venkatesh and Bala, (2008). Section five; customer attitude contained 4 questions which proposed by Schierz (2010).

All items for assessing the constructs employed a five-point Likert scale (Likert, 1932) indicating the extent of agreement or disagreement with the item. The items for each construct and their measurement scales are presented in Table 1.
### Table 1: Constructs and Measurement Items

<table>
<thead>
<tr>
<th>Construct</th>
<th>Measurement Items</th>
<th>Loading</th>
<th>α</th>
<th>CR</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile Advertisement Effect (ME)</strong></td>
<td>I believe mobile advertisement is independent of place.</td>
<td>0.58</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>I follow the ad messages, which come to my mobile phone.</td>
<td>0.81</td>
<td>0.70</td>
<td>0.82</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>The ad messages affect me while I am shopping online.</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I am willing to receive the mobile ad through the mobile phone.</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobile Trust (MT)</strong></td>
<td>The mobile advertisement is sincere and genuine.</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think information on the mobile ad is specific and persuasive.</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Mobile ad would act in my best interest.</td>
<td>0.74</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Mobile ad would keep their commitments to me.</td>
<td>0.78</td>
<td>0.82</td>
<td>0.87</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>I trust mobile payment systems are trustworthy.</td>
<td>0.65</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Even if the mobile systems are not monitored, I’d trust them to do the job correctly.</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Product involvement (PI)</strong></td>
<td>I am particularly involved with the mobile ad environment.</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I think mobile ad provide good efficiency in information searching.</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I would like to spend more time in mobile ad.</td>
<td>0.82</td>
<td>0.70</td>
<td>0.81</td>
<td>0.53</td>
</tr>
<tr>
<td></td>
<td>I am very interested in the products; and the services made available through the mobile ad.</td>
<td>0.68</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Intention to use Mobile payment (IMP)</strong></td>
<td>I intend to conduct mobile payment transactions in the near future.</td>
<td>0.78</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I will probably purchase the product or service mentioned in the text message or take part in the event.</td>
<td>0.78</td>
<td>0.79</td>
<td>0.86</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>I feel comfortable with the information being collected about me by the mobile payment system.</td>
<td>0.76</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I will strongly recommend others to use mobile payment systems.</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Customer attitude (CA)</strong></td>
<td>Using mobile services to purchase is a good idea.</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>The ad messages that come to my mobile phone affect my purchasing decision.</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>It is very likely that I will buy the brand/product shown in my mobile advertisement.</td>
<td>0.88</td>
<td>0.83</td>
<td>0.88</td>
<td>0.61</td>
</tr>
<tr>
<td></td>
<td>I will purchase the brand/product shown in the mobile advertisement next time I need one.</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I would consider purchasing goods or services with smartphone advertisements.</td>
<td>0.86</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. DATA ANALYSIS

4.1 Measurement Model

In order to examine the discriminant validity of the constructs, this study used the Fornell and Lacker (1981) criterion, whereby the average variance shared between each construct and its measures should be greater than the variance shared between the construct and other constructs. In this study, the square root of AVE on each construct is greater than the correlations of the construct with other constructs. As shown in Table 2, the correlations for each construct are less than the square root of AVE for the indicators measuring that construct indicating adequate discriminant validity.

Table 2. Correlation Matrix.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>SD</th>
<th>ME</th>
<th>MT</th>
<th>PI</th>
<th>CA</th>
<th>IP</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME</td>
<td>2.49</td>
<td>1.12</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MT</td>
<td>2.49</td>
<td>1.03</td>
<td>0.77</td>
<td>0.72</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PI</td>
<td>2.70</td>
<td>1.10</td>
<td>0.72</td>
<td>0.74</td>
<td>0.73</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CA</td>
<td>2.98</td>
<td>1.03</td>
<td>0.71</td>
<td>0.66</td>
<td>0.69</td>
<td>0.78</td>
<td></td>
</tr>
<tr>
<td>IP</td>
<td>2.82</td>
<td>1.10</td>
<td>0.72</td>
<td>0.70</td>
<td>0.71</td>
<td>0.69</td>
<td>0.78</td>
</tr>
</tbody>
</table>

Note: Diagonals represent the square root of the average variance extracted while the other entries represent the correlations.

4.2 Structural Model

In general, the PLS arithmetic allows each mediator to vary in accordance how much it conduces to the composite score of the latent variable, instead of assuming equal weight for all indicators of a scale (Hur et al., 2011). In Figure 2, it can be seen that mobile advertisement effect on a significant and positive influence on both mobile trust (H1, \( \beta = 0.505, p < 0.001 \)) and product involvement (H2, \( \beta = 0.715, p < 0.01 \)). Therefore, H1 and H2 are both supported. The model predicted the path from product involvement to mobile trust (H3) and showed that there was a significant and positive relationship between them (\( \beta = 0.380, p < 0.001 \)). So H3 gains supported. Furthermore, the mobile trust has a significant and positive influence toward mobile payment intention (H4, \( \beta = 0.171, p < 0.01 \)), H4 gains supported. Authors discovered Mobile trust on a significant influence on customer attitude (H5, \( \beta = 0.338, p < 0.001 \)), H5 gains supported. The product involvement has a significant and positive influence toward mobile payment intention (H6, \( \beta = 0.255, p < 0.001 \)), H6 gains supported. The product involvement on a significant and positive customer attitude (H7, \( \beta = 0.437, p < 0.001 \)), H7 gains supported. The customer attitude on a significant and positive influence on mobile payment intention (H8, \( \beta = 0.229, p < 0.01 \)), H8 gains supported and all results are shown in Figure 2 and Table 3.
Figure 2. Results of the Hypothesis Testing

Table 3. Results of Hypothesis Testing.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Path Coefficient</th>
<th>T-Value</th>
<th>Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>Mobile advertisement effect → Mobile trust</td>
<td>0.505</td>
<td>9.72</td>
</tr>
<tr>
<td>H2</td>
<td>Mobile advertisement effect → Product involvement</td>
<td>0.715</td>
<td>23.22</td>
</tr>
<tr>
<td>H3</td>
<td>Product involvement → Mobile trust</td>
<td>0.380</td>
<td>7.60</td>
</tr>
<tr>
<td>H4</td>
<td>Mobile trust → Mobile payment intention</td>
<td>0.171</td>
<td>2.79</td>
</tr>
<tr>
<td>H5</td>
<td>Mobile trust → Customer attitude</td>
<td>0.338</td>
<td>4.74</td>
</tr>
<tr>
<td>H6</td>
<td>Product involvement → Mobile payment intention</td>
<td>0.255</td>
<td>3.46</td>
</tr>
<tr>
<td>H7</td>
<td>Product involvement → Customer attitude</td>
<td>0.437</td>
<td>6.38</td>
</tr>
<tr>
<td>H8</td>
<td>Customer attitude → Mobile payment intention</td>
<td>0.229</td>
<td>3.28</td>
</tr>
</tbody>
</table>

Note: ** p < 0.01. *** p < 0.001.

5. FINDINGS AND DISCUSSIONS

5.1 Theoretical implications

Marketing communication via mobile phone has obvious growth recently because it enables to reach appropriate audiences at the right time and right place. The main objective of this research is to determine key factors that create new opportunities for commercial communications through consumer attitudes toward mobile advertising. Hypothesis 1 and 2 indicated that once the customer has a certain understanding of the product and establish the trust through it, there has a large potential to make mobile advertisement effect. The proposed model of attitudes and intentions toward mobile advertising highlights potential
differences between users of smartphones with Internet capabilities and non-users. In addition, the involvement of the product could also affect the intention of following variables. The theoretical model integrates the product involvement, customer attitude, and mobile trust, as well as the mobile payment intention system. What's more, the key point of the research is to organize how mobile phone effects influences the mobile payment intention system directly; it is proved that without the mediator factors of mobile advertisements, customers intend to use mobile payment system once it raised effect.

Additionally, this research established a whole perspective about the mobile advertisement effects, particular in the content of viral advertising; first of all, it is proved that these advertisements are passed along by family members and friends, thus build trust and credibility among the advertisers. Secondly, the product involvement also affects the customer attitude and mobile payment intention. Third, once the customer has trust on the mobile advertisement, it can influence their attitude as well as the mobile payment intention.

5.2 Managerial Implications

Based on the proposed conceptual framework, it can develop in several managerial directions to test the hypothesized linkages shown in Table 3. In other words, this research has some practical implications for marketing practices.

First of all, it is obvious that through the better use of mobile advertisement, the advertisers can put the advertisements into use to influence a significant relationship between the users and companies. With this platform, the managers can be able to recognize the target group through the mobile devices wisely. They can aim at a different group to have different pop-up advertisements, in order to penetrate into the target customers directly. Since that they can get the instant information immediately, they will easily get involved in the product and with the time goes by, established the reliability and positive attitude toward the mobile advertisement.

Secondly, an interesting route to extend this research would be to analyze customer attitude to the mobile payment intention, how to build up the trust through the customers toward the mobile payment services can be seen as important issues nowadays. The study found that consumers are more likely to adopt mobile payment system if they believe that it is convenient to use. This could help companies have better planning for the mobile payment procedure, it will be helpful to enhance the use rate and reduce the complexity of the operation.

In addition, based on findings of the importance of customers' perceived risk, advertisers should also aim at implement security tools. Security for this information exchange is critical to the virtual world. In particular, in mobile transactions enabled and facilitated by mobile agent technologies, shared trust among customers clearly has the potential to facilitate a powerful power of communication and transactions. Once the security concerns are settled, transactions via mobile devices will become as secure as those in traditional physical banks. Thus, it will bring huge business opportunities toward the mobile advertisements.

5.3 Limitations and Future Research

This research mainly discussed the mobile device users in Taiwan market with different age groups. And the data were collected from the social media basically, so the model should be validated across different demographic groups and categories of mobile devices. Additionally, it will be valuable to test such a model in a different cultural context and parents’ and peers’ attitudes towards the mobile advertisement.

With the growth popularity of online payment, it is interesting to have more connection on the mobile payment system through the mobile devices; the research explores the relationship between the mobile advertisement and their related variables, which includes the customer attitude and the product involvement.

Further research is needed to explore the respond rate of the mobile advertisements, it cannot be neglect that there’s still a few people reject to receive the advertisement through the mobile phones, some even think they are annoyed. It is encouraged to explore the negative response through the mobile advertisement effect, in order to prevent and lower such situations.

6. CONCLUSION

This study demonstrates that mobile advertisers typically have personal information on certain subscribers; in consequences, uploading a personalized advertisement based on a subscriber’s habits and preferences is deemed conceivable. As a result, it revealed that for the online marketing strategy of mobile advertisement environment, with mobile trust and product involvement, it could be an effective contribution for the online marketers to increase the intention to use mobile payment and customer attitude. Mobile advertisements help customers to reach the current and future customers where and when they are likely to be receptive to the messages. Customers do not need to receive the current and newest messages by their selves, but they can act on their interest immediately through the mobile advertisements. This not only saves the time searching for the ideal items but can have the deep connection with the advertisers with time goes by. As people become more and more rely on the mobile devices, it has gradually created two-way communications between the mobile users and the advertisers. Because
of the nature of this interact platform, social networks are perceived as a fresh marketing medium for the companies nowadays, in this case, advertisers can be more active on the mobile advertisements to get more responses and effects through the users.

The main objective of this research is to explore mobile advertising's challenges and future directions by evaluating factors that seem to influence mobile advertising. Based on existing literature, this research proposed several hypotheses for the conceptual model of factors affecting mobile advertising to have further discussed the mobile advertisement effect.

It was concluded that consumers used to receive the mobile advertisement easily nowadays, the link between advertisers and consumers get closer and have a direct tool to communicate with. The level of product involvement and customer attitude also influence the credibility toward the consumers, this result can be as an example to extend the information to every hierarchy of customers. The results gained from this study offer important contributions and implications for both marketing academia and customers. Through the popularity of mobile payment system, business and firms should be more concern about the convenience and security of the web.

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