

Factors Affecting Users' Purchase Intention and Attitudes towards Mobile Advertising: a Tokopedia Case Study

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Abstract— The growing number of mobile users encourages companies to take advantage of these opportunities to improve their marketing strategy. One of the marketing strategies that can be done through mobile devices is mobile advertising. However, the problem is that many users still consider mobile advertising as spam and many companies do not know how to start mobile advertising. While to start mobile advertising, must first understand the attitude of mobile users themselves. Therefore, this study aims to analyze the factors that can affecting Tokopedia application user's attitude to mobile advertising seen from affective and cognitive side. Additionally, this study aims to analyze the impact of mobile advertising on purchase intention of users to purchase products or services offered through mobile advertising. This research uses quantitative approach which is done by collecting respond from 565 Tokopedia application user's. The data is then analyzed using CB-SEM method using AMOS 21. Based on the results of analysis, the writers found that perceived ease of use, perceived usefulness, positive emotions, and negative emotions affect the user's attitude towards mobile advertising. Next, attitude also has an effect on user's purchase intention on advertised products or services.

Keywords— Attitude, cognitive, affective, mobile advertising, m-commerce, purchase intention

I. INTRODUCTION

The number of internet users in Indonesia on mobile devices continues to increase and is expected to reach more than 113 million users by 2022 [1]. The rapid growth of mobile users and the development of mobile technology, opening up new opportunities for advertising by using mobile devices. By 2018, mobile advertising is predicted to beat desktop advertising and give the largest contribution of 50.2% to encourage the growth of internet advertising [2].

According to Asia Pacific AppsFlyer Sales Director, Paul Michio McCarthy, there is fundamental challenge that advertisers often faced: how to provide relevant advertising to specific people that can improve the sales percentage [3]. Mobile advertising can certainly respond to these challenges because the characteristics of mobile devices are very important and individualized. Thus, it can help retailers, service providers, and manufacturers to provide more relevant offer [4].

Mobile advertising, a subset of mobile marketing, is one form of advertising that use mobile devices [5]. Mobile advertising is among the popular way to introduce and sell products to public [6]. One of the challenges in using mobile advertising is the number of users who feel disturbed by the existence of mobile advertising such as SMS, email, and banners [7]. Additionally, many e-commerce companies do not know how to implement mobile advertising correctly [3].

Therefore, one of the early step that companies need to take is to analyse what factors can influence mobile phone users to accept mobile advertising positively. These factors may become one of the critical success factor that companies needed to develop their target sales [8].

There are several studies related to user behavior and mobile advertising acceptance. Most of the research explore users' attitude towards mobile advertising by using Technology Acceptance Model (TAM). For example, research conducted by Mohd Syuhaidi Abu Bakar and Rosmiza Bidin (2014) used TAM theory to conduct research on mobile advertising in Malaysia [9]. They found that mobile advertising behaviour and acceptance factors can affect teenagers in Malaysia in using mobile advertising to purchase movies ticket offered in mobile advertising. In addition, Olarte et al. (2016) was extending the concept of TAM by combining perceived usefulness and perceived ease of use factors into cognitive factors and adding affective factors such as positive emotions and negative emotions [10]. These factors used to predict users' behaviour towards mobile ads and their desire to receive mobile ads. Meanwhile, Liu et al. (2012) conducted a study related to the acceptance factors of advertising in general by employing infotainment factor, irritation and credibility factor [11].

Research conducted by Liu et al. (2012) and Olarte et al. (2016) limit their discussion in the factors that can affect users' adoption in mobile advertising, while research from Kim, S., & Yoon, J. (2014) may provide further explanation regarding the relationship of behavioural factors and acceptance to the purchase user intention in making purchases using mobile advertising [11], [10], [12]. This research extends the concepts of several prior research on mobile advertising and m-commerce. Combining the cognitive and affective factors, this research tries to identify the determinant of users' attitude towards mobile advertising and how users' attitude may or may not influence their purchase intention. This paper proceeds as follow. In the next section, we introduce the concept of mobile advertising and provide an overview of its characteristics. We then describe the concept of cognitive, affective and conative in the context of mobile advertising. Then, we develop a conceptual framework that consist of 8 hypotheses explaining the interrelationships between proposed factors. Finally, the paper concludes with a discussion of findings and subsequent implications.

II. LITERATURE REVIEW

A. Mobile Advertising

The marketing strategy through mobile phones is currently the most promising approach for the company as it

allows to reach the right audience with the right time and place [13]. The advent of mobile advertising allows advertisers to provide more personalized advertisement to users at the right time and place [13]. Additionally, mobile advertising allows users to compare product and price quickly before they decide to make a purchase [14]. By utilizing mobile advertising in communication strategies, retailers, service providers, and manufacturers to deliver more dynamic offers and campaigns [6]. One of the unique characteristics of mobile advertising is it has a high response rate, can be accessed anytime and anywhere, and has a low cost [15]. According to Salo and Tahtinen, there are three main characteristic of mobile advertising, namely personal, interactive, and context dependent [16].

B. Attitude and Purchase Intention

In order to understand users' attitude, Fishbein (1967) proposed to investigate the three components on attitude: cognitive, affective, and conative. The cognitive component represents our thoughts, beliefs, and ideas about something. Next, the affective component represents feelings or emotions that something evokes. Lastly, the conative component represents the tendency to act in certain ways toward something. In this study, cognitive component is represented by perceived usefulness and perceived ease of use. Additionally, the affective component of attitude is represented by positive and negative emotions, while the purchase intention represents the conative component of attitude.

According to Manojehri, user's attitude towards mobile advertising can provide information for the company related to users' interest towards their products and services [17]. Additionally, it can also provide the information of users' estimated budget that will be allocated to purchase their product [17]. Moreover, prior research conducted by Fawzy found that there is correlation between attitude and user intentions [18]. In 1980, Ajzen and Fishbein also conducted research that suggested that one's intention to buy or use a product is determined by their attitude towards it before buying or using the product. Thus, it can be concluded that attitude is an important factor that can affect one's intention to buy or use certain products or services. The analysis of users' attitude is important but sometimes quite difficult to understand because of the increasingly complex technology and functionality of the mobile service [19]. Therefore, more researches are needed to comprehensively understand how users' attitude are built.

III. HYPOTHESES DEVELOPMENT

This research tried to examine the cognitive, affective and conative phase on accepting mobile advertising in Tokopedia users. First, the cognitive aspect is represented by perceived ease of use and perceived usefulness constructs. Second, the affective aspect is measured by utilizing positive emotion, negative emotions, and attitude towards mobile advertising. Lastly, purchase intention is used to represent the conative aspect. Figure 1 illustrate the study's research model that was developed based on previous research. Eight hypotheses are proposed and described in detail below.

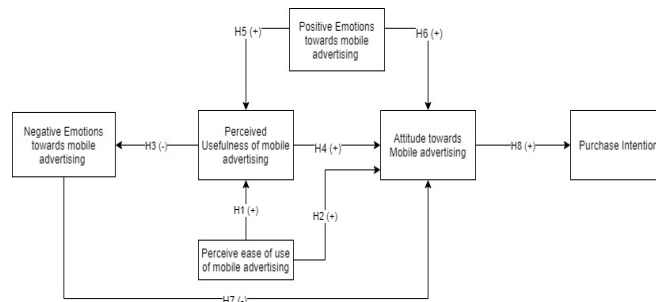


Fig. 1. Proposed Research Model

A. Perceived ease of use of mobile advertising

Davis defines perceived ease of use as an assessment of how much effort should be put to adopt new technologies [20]. Despite the high level of mobile penetration in developing countries, m-commerce applications are considered as relatively new technology and quite challenging to be operated, especially for inexperienced users [21]. Therefore, new technologies should be easy to learn and use by users. If a technology is easy to operate, then users will be able to more easily perceive the benefits provided by the technology. In the context of mobile advertising, mobile advertising technology that easier to operate will help user to reap the benefits of the advertisement. For example, users can experience the great benefits of mobile advertising that provide automatic discount coupon recommendations when compared to mobile advertising discounts through banners. Additionally, the ease of use of mobile advertising will also affect users' attitude towards mobile advertising. Therefore, these hypotheses are proposed:

H1: Perceived ease of use will positively influence users' perceived usefulness toward mobile advertising

H2: Perceived ease of use will positively influence users' attitude toward mobile advertising

B. Perceived usefulness of mobile advertising

Perceived usefulness is one of the TAM (Technology Acceptance Model) variables that provide an important influence on the acceptance of a new technology (Davis, 1989). In the context of m-commerce, perceived of usefulness can be defined as the extent to which consumers believe that by using m-commerce their performance can be improved [22]. Thus, it can also be concluded that in the context of mobile advertising, perceived usefulness can be defined as the extent to which consumers believe that by using mobile advertising, their performance can be improved. Thus, consumer can benefit from mobile advertising.

Additionally, Grant and O'Donohoe found that adolescent consumers are very sensitive to the perceived usefulness of mobile advertising [23], [24]. Perceived usefulness is an important factor because according to Tripathi and Siddiqui (2008), consumers may feel disturbed if the offered mobile advertising is not useful or incompatible with the information they are looking for [24]. Based on this study, it can be said that perceived usefulness has influence on consumers' negative feelings towards mobile advertising. Brehm and Brehm (1981) describe the relationship between perceived usefulness with irritation (negative emotions) through reactance theory. In those theory, it is argued that irritation is

the tendency of users to reject ads given because they found that the ads are annoying. Parreño et al. proves that perceived usefulness can reduce the irritation of the user against mobile advertising [24]. Based on the review, the authors propose that perceived usefulness negatively affects consumer's irritation (negative emotions) on mobile advertising because the greater perceived usefulness then it will reduce the negative feelings of consumers to the ads provided. Those, these following hypotheses are developed:

H3: Perceived usefulness will negatively affect users' negative emotions toward mobile advertising

H4: Perceived usefulness will positively affect users' attitude toward mobile advertising

C. Positive and negative emotions toward mobile advertising

Kolsaker & Drakatos (2009) found that only users with strongly positive emotions over their devices can maximize the benefits of mobile advertising [25]. When users provided with more relevant and credible content, then the user will further benefit from the mobile ad. Moreover, positive emotions such as desire and affection can have a positive effect on mobile advertisers' attitude [10]. According to Moorman et al., positive emotion such as entertainment can have a positive effect on users' attitudes toward mobile advertising. Meanwhile, Tsang et al. found that irritation as one of the negative emotions can negatively affects the attitude towards mobile advertising. Negative emotions can be assessed from the level of stress and frustration perceived by consumers related to a particular technology [26]. Therefore, the authors draw the hypothesis as follows:

H5: Positive emotions will have positive effect on users' perceived usefulness toward mobile advertising

H6: Positive emotions will have positive effect on users' attitude toward mobile advertising

H7: Negative emotions will have negative effect on users' attitude toward mobile advertising

D. Purchase intention on mobile advertised product

In the mobile advertising context, many studies argue that attitude is the determinant of users' acceptance of mobile advertising [13]. Fishbein and Ajzen (1975) define attitude as the tendency of one who can direct them to respond to objects, ideas, or opinions. Prior research also found that attitude can influence the intention of teenagers in Malaysia to buy movie tickets [9]. Thus, this following hypothesis is proposed:

H8: Attitude positively influence users' intention to purchase products that have been offered in mobile advertising

IV. METHODOLOGY

A. Instrument Development

Questionnaire is utilized to collect data by measuring six variables that examined in this research, namely, perceived usefulness, perceived ease of use, positive emotions, negative emotions, attitude, and purchase intention. The indicators of each variable are developed based on previous research and then translated to Bahasa Indonesia. Five-point Likert scales are employed to indicate the respondent's levels of agreement or disagreement with each statement. Table I shows the example of indicators for negative emotions' construct. To maintain the meaning of original instruments,

readability test was conducted before starting the data collecting process.

TABLE I. INDICATORS FOR NEGATIVE EMOTIONS' CONSTRUCT

Code	Indicators
NEG 1	I think the mobile advertising at Tokopedia apps are misleading
NEG 2	I think the mobile advertising at Tokopedia apps are irritating
NEG 3	I think the mobile advertising at Tokopedia apps are confusing
NEG 4	I think the mobile advertising at Tokopedia apps are distractiong
NEG 5	I think the mobile advertising at Tokopedia apps are disturbing

B. Data Collection

The sample of this study was Tokopedia users in Indonesia that bought product/services through mobile advertising. The data were collected via an official online survey questionnaire by using Survey UI domain (<http://kuesioner.cs.ui.ac.id/KuesionerHalodoc/>). Participants were recruited via popular social networking sites for Tokopedia users such as Facebook, Line Square, Whatsapp, Twitter, Instagram, dan LinkedIn. Limited gifts were offered to encourage participation. After deleting duplicates and incomplete responses, 509 valid surveys remained. Table II summarizes the demographics of the respondents.

TABLE II. DEMOGRAPHY OF RESPONDENTS

Demographic	Category	Frequency	%
Gender	Male	225	44%
	Female	283	56%
Age	<20	117	23%
	20-30	357	70%
	31-40	30	6%
	>40	4	1%
Type of mobile advertising that often used	Banner Tokopedia	436	86%
	Push notification	6	1%
	SMS advertising	66	13%
Last time shopping due to mobile advertising	< 3 months	360	71%
	3-7 months	95	19
	8-12 months	26	5%
	> 12 months	27	5%
Frequency of shopping through mobile ads	0-5 times	405	80%
	6-10 times	55	11%
	> 10 times	48	9%

V. RESEARCH RESULTS

The study is conducted in quantitative approach to identify the relationships between variables introduced in prior section. AMOS 21.0 is employed to analyze the research model depicts at Figure 1.

A. Measurement Model

To evaluate the proposed model, we employ the two-stage model-building process for applying SEM. First, the measurement model is measured by examining the reliability and validity of constructs. Table III show the results of reliability and validity testing by ensuring each construct has loading factors more than 0.70. Additionally, the Cronbach's Alpha (CA) and Composite Reliability (CR) should be more than 0.70, while the Average Variance Extracted (AVE) can not be lower than 0.50 [27]. Next, the structural model is evaluated and described in the next section.

TABLE III. THE RESULTS OF RELIABILITY AND CONVERGENT VALIDITY TESTING

Variable	Items	Loading Factors	AVE	CR	CA
Perceived usefulness	PU2	0.722	0.977	0.853	0.994
	PU3	0.737			
	PU4	0.793			
	PU5	0.725			
	PU6	0.816			
Purchase intention	PI1	0.708	0.980	0.826	0.993
	PI2	0.729			
	PI3	0.712			
	PI4	0.775			
	PI5	0.735			
	PI6	0.782			
Positive emotions	PE5	0.768	0.743	0.859	0.852
	PE6	0.705			
	PE7	0.749			
	PE8	0.756			
	PE9	0.779			
Negative emotions	NE2	0.727	0.986	0.798	0.995
	NE3	0.721			
	NE4	0.823			
	NE5	0.727			
	Attitude	ATT10			
ATT3		0.774			
ATT4		0.764			
ATT5		0.805			
ATT6		0.733			
ATT7		0.758			
ATT8		0.829			
ATT9		0.75			
Perceived ease of use		PEOU3	0.718	0.976	0.736
	PEOU4	0.761			
	PEOU5	0.794			

B. Structural Model Evaluation

The evaluation of structural model consists of three distinct steps. First, we need to estimate the model's overall goodness-of-fit. The values of all fit indices were better than the recommended values, which demonstrate a good fit between the model and data (see Table IV). Next, each R² value for endogen variable should be identified as can be seen in Table V. PU has R² value of 0.463 that shows that PU variable can be explained by its exogenous factors up to 46.3% and the rest of it explained by other factors outside model. Then, NEG variable has R² value of 0.002 while ATT and PI have R² value of 0.622 and 0.655 respectively. Therefore, one can conclude that PI and ATT variable have strong correlation with its exogenous variables.

TABLE IV. THE FIT INDICES FOR MEASUREMENT MODEL

Fit index	Chi Square	RMSEA	GFI	CFI	NFI
Recommended value	>0.05	< 0,07	>0.90	>0.90	>0.90
Model value	0.065	0.023	0.973	0.996	0.98

TABLE V. R² VALUE FOR ENDOGEN VARIABELS

Endogen Variables	R ²
Perceived Usefulness (PU)	0.463
Negative Emotions (NEG)	0.002
Attitude (ATT)	0.622
Purchase Intention (PI)	0.655

AMOS 21.0 is utilized to perform one-tailed hypothesis testing. The significant path coefficients ($p \leq 0.05$) appear to support the proposed model. Table VI shows the result of

hypothesis testing. From 8 initial hypotheses, 1 of them are rejected while the rest are accepted.

TABLE VI. HYPOTHESES TESTING

Hypotheses	Attributes	Estimate	p	p/2	Results	
H1	PU <---	PEOU	0.298	0.002	0.001	Accepted
H2	ATT <---	PEOU	0.322	0.003	0.0015	Accepted
H3	NEG <---	PU	-0.065	0.116	0.058	Rejected
H4	ATT <---	PU	0.234	0.001	0.0005	Accepted
H5	PU <---	PE	0.528	0.005	0.0025	Accepted
H6	ATT <---	PE	0.28	0.006	0.003	Accepted
H7	ATT <---	NEG	-0.031	0.004	0.002	Accepted
H8	PI <---	ATT	0.298	0.002	0.001	Accepted

VI. DISCUSSION

This study examines users' attitude towards mobile advertising and how the attitude can affect users' purchase intention towards the products or services offered through the mobile advertising. To analyze users' attitude towards mobile advertising, the authors investigate the cognitive, affective, and conative aspects of mobile advertising. Cognitive aspects help author to understand users' attitude by investigating perceived ease of use and perceived usefulness. Meanwhile, the affective aspects are investigated by using positive emotions and negative emotions towards mobile advertising.

The first hypothesis draws a positive relationship between perceived ease of use on perceived of usefulness. This hypothesis is accepted and supported by research of Alicia et al which found that perceived ease of use has a great influence on the benefits or usefulness perceived by users [13],[28]. This will also be affecting users' desire to adopt mobile services.

As for the second hypothesis, the authors propose that perceived ease of use has positive effect on users' attitude. This hypothesis is also accepted and supported by research Olarte et al. which suggests that the higher perceived ease of use will bring more positive user's attitude towards technology [10]. This is because internet and smartphone technology can help companies understand the character of every customer, from demography to the needs of the customer. The ads provided will be tailored to the characteristics of the customer and can improve the attitude of the customer against the advertisement [28].

As for the third hypothesis, the authors propose the hypothesis that perceived usefulness negatively affects negative emotions of users. However, the authors found different things after testing because this third hypothesis was rejected. Based on the research of Edward et al., it suggests that the negative feelings of a person can be affected by the laying and positioning of the ad. If an ad is positioned in the right place, then it will reduce the annoyance perceived by users [29]. So, it is possible that Tokopedia users do not feel disturbed by mobile advertising because of the right placement of its ads.

In the fourth hypothesis, the authors propose a hypothesis that perceived usefulness can provide a positive influence on users' attitude towards mobile advertising. After the test, this hypothesis is accepted and also supported by the research of

Parreño et al. which suggests that perceived usefulness can influence attitude because users can carry their mobile phones at all times thus giving users extra privileged to access the promotions offered as well can increase the chance to access useful information [24]. Nowadays, many advertisers in Indonesia are developing content marketing that is marketing step to give advertisement through which more interesting, useful and informative to attract more audience [28].

In the fifth hypothesis, the authors propose a hypothesis that positive emotions have a positive effect on perceived usefulness and this hypothesis is accepted. The results of this hypothetical test also supported by Kolsaker & Drakatos (2009) that found that only users who have strong emotions to their devices, who can feel the tremendous benefits of mobile advertising it receives [25]. This emotion is derived from the properties of an interactive mobile device that increases the commitment and desire of users to disseminate information related to products or services through their social media. This is in accordance with the behaviour of the Indonesian people towards advertising, most of the audience has a level of patience that is directly proportional to the quality of the ad content displayed. Highly-weighted and high-interest ads will make your audience more patient and get the most out of the ads [3].

In the sixth hypothesis, the authors propose a hypothesis that positive emotions have a positive effect on the user's attitude and this hypothesis is accepted. The results of this hypothesis test are also supported by Park & Salvendy's research which revealed that positive emotions are related to desire and affection that can positively influence the attitude of mobile advertising related users [10], [30]. In providing ad content it is necessary to analyse the emotions to be conveyed through the ad, the emotion can be fear, humour, fantasy and other feelings. It is used to support the user's attitude toward advertising, if the audience receives positive feelings from the advertisement then the probability of receiving advertising message will be greater to be accepted.

In the seventh hypothesis, the authors propose that negative emotions can negatively affect the user's attitude and this hypothesis is accepted. The results of this hypothesis are also supported by Tsang et al. which revealed that negative emotions negatively affect attitude toward mobile advertising [26]. Similar to positive emotions, negative emotions also give big influence on attitude. Indonesians are very sensitive to the presence of an advertisement, especially the placement and positioning of ads in the applications. Advertisement that gives users negative feeling are mainly because of the inadequate position that make the audience not paying attention to the advertisement.

In the eighth hypothesis the authors propose that attitude gives a positive influence on users' purchasing intention towards products or services offered on mobile advertising, and this hypothesis is also accepted. The results of this hypothesis testing are also supported by Fishbein & Ajzen (1975, 1980) which reveal that attitude can affect purchase intention [9]. This happened due to Indonesian behaviour towards mobile advertising that are strongly influenced by the development of Internet technology and smartphones and also influenced by the content provided by ads.

VII. THEORETICAL AND PRACTICAL IMPLICATION

In terms of theoretical implication, this study complements previous research by providing attitude evaluation from two sides, namely cognitive and affective. The previous research often only focused on one aspect, so it cannot see users' attitude comprehensively. In addition, this study also provides a further description of the conative aspects of users' attitude by using users' purchase intention factor. Meanwhile, from the practical side, this research provides benefits to mobile advertising providers, especially Tokopedia. These results can help Tokopedia in developing strategies for mobile advertising development by prioritizing factors that can improving users' attitude. Additionally, this research can also benefit the advertising agencies and consultants because they can develop mobile advertising in accordance with the attitude of users so as to increase the purchase intention of users of the products or services offered through developed ads. In addition, mobile advertising providers can use cognitive factors such as perceived usefulness and perceived ease of use, and affective factors that are positive emotions and negative emotions to become the criteria in measuring the effectiveness of advertising channels, especially in mobile advertising.

VIII. LIMITATION AND CONCLUSION

Based on the research results, we found that cognitive factors and affective factors influence users' attitude towards mobile advertising. This study also found the relationship between positive emotions and perceived usefulness. Additionally, we also found that user attitude is one of the antecedent of users' purchase intention to buy products advertised in mobile application. Lastly, this study found that perceived usefulness does not affect users' negative emotions towards mobile advertising.

All the findings of this study may be explored and implemented by any companies that used mobile advertisement to attract customers. Still, this study has several limitations. First, we did not incorporate actual action of users. Second, the demography of respondents did not represents all users characteristics of Tokopedia. Thus, the results of this study may not have represented Tokopedia users' attitude in general. Further data collection needs to be conducted in order to improve the results of this study. Moreover, future research must explore other factors that can affect users' attitude towards mobile advertising such as subjective norms and users' characteristic. One can utilize systematic search to find the right keywords to get additional factors that may influence users' attitude towards mobile advertising.

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