

Predicting Antecedents of Intention to Use Location-Based Advertising: Empirical Study of Telkomsel MyAds

Anastasia Amanda^a, Reiner Adri Nugroho^b, Sabrina O. Sihombing^c,
^{a,b,c}Universitas Pelita Harapan, Indonesia, Email:
^aanastasiaamanda3110@gmail.com, ^bs00000014194@student.uph.edu,
^csabrina.sihombing@uph.edu

The technological capabilities of mobile phones is always developing. The Global Positioning System (GPS) facility that is integrated with the mobile phone supports opportunities for practitioners to create innovative advertising channels such as Location-Based Advertising (LBA). This research was conducted to cover the absence of research as to how to increase the intention to for advertisers to use LBA in Indonesia. The purpose of this study is to examine relationships between variables that can affect the use of LBA. The variables in this study are the value of advertising, intention to use LBA, trust in the brand, concern for privacy, and confidence in privacy. The data collection was conducted using a questionnaire and with a purposive sampling method. The number of respondents was 200. The data is analyzed using Structural Equation Modeling (SEM). The results show that four of the formulated hypotheses are accepted. The four hypotheses are: 1.) a significant positive relationship between the value of advertising and the intention to use. 2.) The plan to use has a meaningful negative relationship with concern for privacy. 3.) Trust in the brand has a significant negative relationship with interest for privacy. 4.) There is a significant negative relationship between self-confidence in privacy and concern for privacy. This study also covers the limitations of such and provides suggestions for further research.

Key words: *Advertising Value, Location-Based Advertising, Brand Trust, Privacy Concerns, Privacy Self-Efficacy.*

Introduction

The development of technology is increasingly rapid, and this can be specifically seen through the development of mobile phones. Mobile phones have experienced widespread



diffusion which has led to an increased capacity for extensive data collection and handling, such as the location data that can be obtained through the global positioning system (GPS) facility (McAfee & Brynjolfsson, 2012). The increasing prevalence of GPS can create new opportunities to produce innovative advertising channels, such as Location-Based Advertising (Richard & Meuli, 2013). However, there is still little research that addresses the intention to use Location-Based Advertising (Schade, Piehler, Warwitz, & Burmann, 2018). This research was conducted to examine several factors that influence people's intentions to use LBA.

There are three prominent justifications for this research. Firstly, research on LBA can provide new insights about current technological progress, not only in the field of technology but it can also open new opportunities for marketers who want to market their goods or services through mobile phones. Secondly, this research carries out the development and testing of models. The research model was developed by conducting literary reviews of previous studies and serves to form empirical knowledge and provide direction to further research (Shaughnessy, Zechmeister, & Zechmeister, 2012). Finally, this research was conducted to provide input for advertising service providers using LBA, such as MyAds Telkomsel, who are owned by Telkomsel telephone service providers. The results of this study are expected to help companies understand the thinking and behavior of people who receive offers through LBA in Indonesia.

Literature review

Location-Based Advertising (LBA)

Location-Based Advertising is a form of marketing carried out by marketers through SMS, MMS, and Pop-Up messages on mobile phones that rely on location information from potential customers. Furthermore, Location Based Advertising is a form of advertising that is individualized and equipped with the ability to reach specific locations so as to meet the needs and desires of the recipients of the ad (Xu, Oh, & Teo, 2009). The location aspect is one of the essential factors in LBA (Van Riet, Hühn, Ketelaar, Khan, König, Rozendaal, & Markopoulos, 2016). Entrepreneurs prefer advertising through LBA because they consider that they are able to build good personal relationships with customers (Armstrong, Adam, Denize, & Kotler, 2014). Therefore, it can be stated that LBA is a way of delivering advertising to potential customers that can increase the likelihood of consumers to purchase goods or services offered through LBA. Location-Based Advertising service providers used by researchers in this study are from MyAds Telkomsel. MyAds Telkomsel allows advertisers to send their offers to Telkomsel customers in specific regions according to the needs of advertisers.

Behavioral intention

Behavioral intention is a strong internal driver and stimuli which can motivate one's actions, where this drive is influenced by stimulus and positive feelings on a particular brand (Kotler & Armstrong, 2012). Bagozzi (2010) stated that intention is the strong desire to achieve a particular outcome where the person will not allow anything to interfere with the achievement of that goal. More simply, intention means a tendency and high enthusiasm or a great desire for something.

Advertising value

Advertising is defined as the process of mass communication, such as through television media, involving the advertiser paying the advertising broadcast services (Suhandang, 2010). The value of advertising itself is an estimate of the consumer perception of a product. Furthermore, the advertising value reflects several benefits, both tangible and intangible, and the costs perceived by customers (Kotler & Armstrong, 2012). Based on this explanation, it can be concluded that the value of advertising is an estimate on the perceived benefits and costs of a mass communication process carried out through various media. The value of advertising is used to measure the perspective of consumers on the use of advertisements or the relative value of the advertisements (Logan, Bright, & Gangadharbatla, 2012). Consumers who witness an advertisement can find value in the commercial and can extract this value through complying with the advertisement and their own needs or desires (Dehghani, Niaki, Ramezani, & Sali, 2016).

Privacy concern

Privacy concerns are a reflection of consumers' attention to the possibility of losing their privacy (Carroll & Rosson, 2011). According to Yu and Cude (2009), an individual feels that their privacy is disrupted when faced with direct marketing. In response to such, they will begin to emphasize their privacy in an attempt to determine how far advertisers will go to access their private information. They will then have self-efficacy towards their privacy and feel confident that they can protect such. However, privacy in the context of e-commerce can be interpreted as a person's willingness to share his information via the internet to enable the occurrence of purchase transactions. Moreover, protection of privacy is an important thing to do, because it can increase customer satisfaction.

Privacy self-efficacy

Privacy self-efficacy is a customer's perception of their ability to supervise and provide boundaries to other individuals. It is also the process of limiting these individual's access to personal information about themselves so as to protect their data and private space (Chen &

Chen, 2015). Self-efficacy is a person's assessment of themselves or their level of confidence, such as their ability to do a particular job or to achieve specific results (Chen & Chen, 2015). In the context of the LBA, self-efficacy means the customer's assessment of themselves regarding their ability to protect and safeguard their own personal information. Self-efficacy can be measured using three indicators (Pee, 2011); First, the ability to manage difficulties in work. Second, the ability to manage and build the courage to try and finally, confidence in carrying out a task or job.

There are a number of factors that influence the development of one's self-efficacy, some of the more notable factors are: previous successes and failures; the message other people convey to us that we will succeed; and the success and failure of others.

Brand trust

Brand trust can be interpreted as the willingness of consumers to rely on a particular brand. It is based on one's own beliefs, regardless of the risks or uncertainties related to the brand (Becerra, & Badrinarayanan, 2013). Trust in brands also means consumers who believe in the existence of a specific brand that offers a very reliable product (Chi, Yeh, & Chiou, 2009). Reliability includes such factors as complete functions, quality assurance, and service. When consumers believe in the brand, they will have the intention to use the goods or services offered.

Research Hypotheses

Due to the limited space, the relationship between variables are developed based previous research (e.g., Kim, & Han, 2014; Xu & Gupta, 2009; Dinev & Hart, 2006; Unni & Harmon, 2007; Lee, Kim, & Sundar, 2015; Beneke, Flynn, Greig, & Mukaiwa, 2013; Beneke, Greene, Lok, & Mallet, 2012; Ormrod, 2008; D'Alessandro, Girardi & Tiangsoongnern, 2012; Ganguly, Dash, Cyr, & Head, 2010; Veloutsou, 2015; Colesca, 2009; Matzler, Grabner-Krauter, & Bidmon, 2008; Delgado-Ballester, & Munuera-Aleman, 2005; Delgado-Ballester & Munuera-Aleman, 2001; Li, 2012; Lee & Hill, 2013; Limpf & Voorveld, 2015). Then the research hypotheses are:

H₁: Advertising value has a positive relationship with the intention to use

H₂: Concern for privacy has a negative relationship with the intention to use

H₃: Brand trust has a negative effect on privacy concerns.

H₄: Privacy self-efficacy has a negative effect on privacy concerns.

Methods

Research indicators

There are five variables, with each variable having a total of four indicators. All indicators are measured using a 5-point Likert scale (1 = strongly disagree, to 5 = strongly agree). These indicators were based on sources from previous research (Schade, Piehler, Warwitz, & Burmann, 2018).

Design sampling and sample size

This study applied purposive sampling. The sample in the study were Indonesian people who used Telkomsel telephone services and had received offers through LBA on their mobile phones. The number of samples used in this study was 200 respondents. The selection of the number of samples is based on the number of indicators (as many as 20), multiplied ten times, which results in 200 (Kline, 2011). Furthermore, to carry out testing using SEM, there is a required minimum sample size of 200. Finally, it is said that good research is research that uses a sample of between 30-500 respondents (Mohajan, 2017).

Reliability and validity

Reliability and validity tests are essential to analyze whether the data obtained has a function towards research (Sekaran & Bougie, 2016). Reliability testing shows the extent to which measures are error-free and therefore, can guarantee consistent measurements over time and on various items in the instrument. The reliability testing used in this study is Cronbach's Alpha coefficient. Cronbach's Alpha is used to test the reliability of internal consistency.

Hypotheses testing

This study applied structural equation modeling (SEM) to examine the relationship between the dependent variable and independent variables separately using software from AMOS or Analysis Moment of Structural. Furthermore, SEM is used to estimate the causal effects between variables.

Results and Discussion

Results

200 questionnaires were distributed to individual respondents. Of the total 200 questionnaires, 172 questionnaires were returned, giving a response rate of 86%. However,

from the number of returned questionnaires, a total of 169 questionnaires could be further processed, thus providing useable response rates of 98.25%.

Reliability testing was carried out in this research by looking at the values of Cronbach's Alpha coefficient and corrected item-total correlation to test the internal consistency. The examination of the validity of the real analysis is done using the EFA method and relationship. This test is carried out to fulfill the requirements in testing construct validity, namely the examination of convergent and discriminant validity. Table 1 shows the results of the reliability and validity tests.

Table 1. Cronbach's Alpha, CR, AVE, and Correlation between Constructs

| No | Variable | □ | CR | AVE | 1 | 2 | 3 | 4 | 5 |
|----|-----------------------|-------|-------|-------|--------------|--------------|--------------|--------------|--------------|
| 1 | Brand Trust | 0.900 | 0,901 | 0,694 | <i>0,833</i> | | | | |
| 2 | Advertising Values | 0.868 | 0,869 | 0,625 | 0,240 | <i>0,791</i> | | | |
| 3 | Privacy Concern | 0.928 | 0,928 | 0,764 | -0,220 | -0,131 | <i>0,874</i> | | |
| 4 | Privacy Self-Efficacy | 0.956 | 0,957 | 0,847 | 0,102 | 0,312 | -0,439 | <i>0,920</i> | |
| 5 | Intention to Use LBA | 0.845 | 0,853 | 0,593 | 0,304 | 0,601 | -0,398 | 0,457 | <i>0,770</i> |

Note: values in italics = discriminant validity

The hypotheses testing applied in this research was Structural Equation Modeling (SEM). In conducting testing using SEM analysis tools, testing of model measurements and testing of structural models were applied. Table 2 shows the results of testing the structural models.

Table 2. Structural Model Results

| Hypothesis | Relationship between Variables | Estimate | CR/t-count | P-value | Kesimpulan |
|----------------|--|----------|------------|---------|------------|
| H ₁ | Advertising Values -> Intention to Use LBA | 0,631 | 6,637 | 0,000 | Supported |
| H ₂ | Privacy Concern -> Intention to Use LBA | -0,274 | -4,914 | 0,000 | Supported |
| H ₃ | Brand Trust -> Privasi Concern | -0,212 | -2,442 | 0,015 | Supported |
| H ₄ | Privacy Self-Efficacy -> Privacy Concern | -0,393 | -5,687 | 0,000 | Supported |

Source: data analysis results (2019)

Discussion

The results show that the data supported all research hypotheses. Hypothesis 1 states that there is a significant positive relationship between Advertising Value and Intention to Use LBA. That is, the higher the perceived advertising value, the higher the consumer's intention to use LBA. Reasoning would suggest that this is because when the value of an advertisement can be understood and well received by the community the public awareness of the value of the ad will increase. Thus it can be concluded that the customer who gives a positive response to an item or service would be pleased to purchase or use the goods or services. These results confirmed previous research (e.g., Dinev & Hart, 2006; Unni & Harmon, 2007; Xu, Oh, & Teo, 2009; Van't Riet, Hühn, Ketelaar, Khan, König, Rozendaal, & Markopoulos, 2016; Schade, Piehler, Warwitz, & Burmann, 2018).

Hypothesis 2 shows that there is a significant negative relationship between Privacy Concern and Intention to Use LBA. That is, when people have a concern for their privacy, they will be worried if others know about their confidentiality. Because of these feelings, the individuals are afraid to believe in certain things that can threaten their privacy. In the context of this study, consumers are scared to trust the LBA that MyAds Telkomsel conveyed, so their intention to use the product advertised decreased. This study confirmed previous research (e.g., Unni & Harmon, 2007; Ormrod, 2008; Ganguly, Dash, Cyr, & Head, 2010; Beneke, Greene, Lok, & Mallet, 2012; Steven, Antonia, & Tiangsoongnern, 2012; Beneke, Flynn, Greig, & Mukaiwa, 2013; Van't Riet, Hühn, Ketelaar, Khan, König, Rozendaal, & Markopoulos, 2016; Schade, Piehler, Warwitz, & Burmann, 2018).

Hypothesis 3 states that there is a significant negative relationship between trust in brands and concern for privacy. These results indicate there is an influence between Brand Trust and Privacy Concern; when people have confidence in a particular brand they will consider the information provided by the brand concerned. So people tend to look at brands before using goods or services from the brand. The results of this study support previous research (e.g., Delgado-Ballester & Munuera-Aleman, 2001; Delgado-Ballester, & Munuera-Aleman, 2005; Matzler, Grabner-Krauter, & Bidmon, 2008; Colesca, 2009; Li, 2012; Van't Riet, Hühn, Ketelaar, Khan, König, Rozendaal, & Markopoulos, 2016).

Hypothesis 4 states that there is a significant negative relationship between Privacy Self-Efficacy and Privacy Concerns. Regarding privacy issues, this study was the first to include both related brands (brand trust to LBA providers) and personal factors (privacy self-efficacy). Both have significant adverse effects on privacy issues, and thus reduce the perceived risk of invasion of privacy, which then increases the intention to use LBA. Therefore, this study successfully identified two ways to reduce privacy problems to improve the purpose of using LBA. This study provides preliminary evidence about the importance of the LBA provider brand in increasing the plan to use LBA for consumers.



Conclusion

There are four supported hypotheses. The following is the result of testing the hypothesis: there is a significant positive relationship between the value of advertising and the intention to use Location-Based Advertising (LBA). There is a significant negative relationship between privacy concerns and the plan to use LBA. There is a significant negative relationship between brand trust in the MyAds Telkomsel brand and privacy concern, and there is a meaningful negative relationship between privacy self-efficacy and privacy concern.



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