



Mobile Viral Behavior Model with Perceived Risk as Moderating Variable

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Abstract :

The purpose of the research is to analyze the mobile viral behavior model with perceived risk as moderating variable. The study examine the relationship between subjective norm, perceived behavioral control, viral attitude and perceived utility on mobile viral intention , which in turn affect on mobile viral¹ behavior with perceived risk as moderating variable. Data was collected using questionnaires, distributed to 165 students in the universities across Jakarta, Indonesia The respondents were an active user of smart phone at least of the last month. The study used cross sectional data and the sampling method used was purposive sampling. Structural Equation Modeling (SEM) and Multi Group analysis used as methods of analysis The finding of the research are : perceived behavioral control and perceived utility affect positively toward viral intention . There is no significant relationship between subjective norm and viral attitude on mobile viral intention. There is positive relationship between mobile viral intention and mobile viral behavior. Only performance risk as one of the three dimensions of perceived risk moderates the relationship between mobile viral intention and mobile viral behavior.

Key words: *Viral marketing, mobile viral behavior, mobile viral attitude, mobile viral intention subjective norm, perceived behavioral control, perceived utility, perceived risk*

INTRODUCTION

The growth of communication technologies is very fast such as in mobile device. One out of many types of mobile devices is smart phone. Indonesia is one of big potential market of smart phone The newest research in Indonesia showed in 2013 (till March) the usage of smart phone increase significantly from 12% to 24%, the total user was 41.6 million and in 2017 is predicted 103.6 million . One of smart phone user is student .In Indonesia they use smart phone for many activities in their daily life, such as search information , send messages , on line shopping, take pictures, and social networking etc. They see smart phone as a prestige communication device. Many benefits could find in using smart pone. Based on theory acceptance model customers will accept new technology if they think it will be useful, excitement, involvement and interest (Yang et.al., 2012). It means



Indonesian accept smart phone because its benefit There is an opportunity for marketers to communicate its products through mobile viral marketing

Viral marketing is a strategy using message duplication in a huge number. This strategy motivate a customer to send product message to other customers (Wilson, 2000). Marketer must design useful excitement, and interest message because it will enforce customer adopt mobile viral marketing (Yang et.al, 2012) Further more Yang et.al (2012) stressed that subjective norm, customer control behavior and customer attitudes influence customer intentions to involve in mobile viral marketing. According to Campbell and Goodstein (2001), Lutz and Rilley (1974) perceived risk influence customer intention and customer behavior. Unfortunately, there is no research in mobile viral behavior include perceive risk. The study includes perceived risk as moderating variable in mobile viral behavior model

This study will analyze:

1. the impact of subjective norm, perceived behavioral control, mobile viral attitude, and perceived utility on mobile viral intention
2. the impact of mobile viral intention on mobile viral behavior moderated by perceived risk.

LITERATURE REVIEW

Viral marketing

Viral marketing is a marketing strategy in distributing marketing message by a customer to other customer through social media (Kaikati and Kaikati, 2004). Polka et.al. (2009) assert that marketing message in viral marketing as product advertisement. Using online media such as web, email, chat room, face book the marketing message will distribute to a huge number of customers. This strategy is very efficient for introducing, and promoting products. There are two types of viral marketing as Skrob (2005) stated : (1) Active and (2) passive. Active viral marketing characterized by if a customer involves in distributing electronic marketing message actively to his/her friend, and family in order they will interest to the product (Reimer and Totz 2006 in Skrob, 2005). If someone likes music he/she could copy link URL, and attach it in the wall of social media. So it will distribute to other people very fast.

There is no involvement of customer in passive mobile viral marketing, marketing message will distribute automatically to customers using a system design by a marketer This type of viral marketing used to overcome barriers in active viral marketing such as message did not reach customers, customers difficult in using a



system, or customers ignore the message etc. (Jurveston and Depper,19998 in Skrob 2005).

There are five elements for viral marketing effectiveness, the marketing message must be clear, easy to replicate , adapt to current technology , motivate customer to distribute the message and create marketing message in social media actively. (Fattah,2000; Wilson 2000 in Jensen and Hansen,2006).

Viral marketing needs devices connected with social networking through internet. Based on theory acceptance model, a new technology will be adopted if customer perceived it is useful (Watjatrakul,2011.),such as information utility, entertainment utility and social utility (Bauer et.al, 2005; Katz et.al, 1973 in Watjatrakul 2001)

Theory Planned Behavior (TPB)

Theory planned behavior stated behavior is influenced by subjective norm, perceived behavior control and intention (Ajzen,1991). Subjective norm emerge because of everyone has normative trust, what he/she is done will be accepted or not based on norm in the community (Shah,2009).Applied in viral marketing it means that subjective norm of a customer determines customer intention to distribute electronic message to his/her relatives.

Perceived behavior control emerge based on condition and situation in his/her daily life. Yang et.al (2012) stated perceived behavior control in viral marketing as subjective control when he/she distribute electronic message. It relates with how easy and his/her freedom to distribute electronic message. Perceived behavior control is determined by marketing message content (Bandura, 1982 in Ajzen,1991), and the experience of customer (Pavlou and Fygeson,2006) The appropriate of electronic marketing message cause customers perceive easy and free to distribute electronic marketing message.

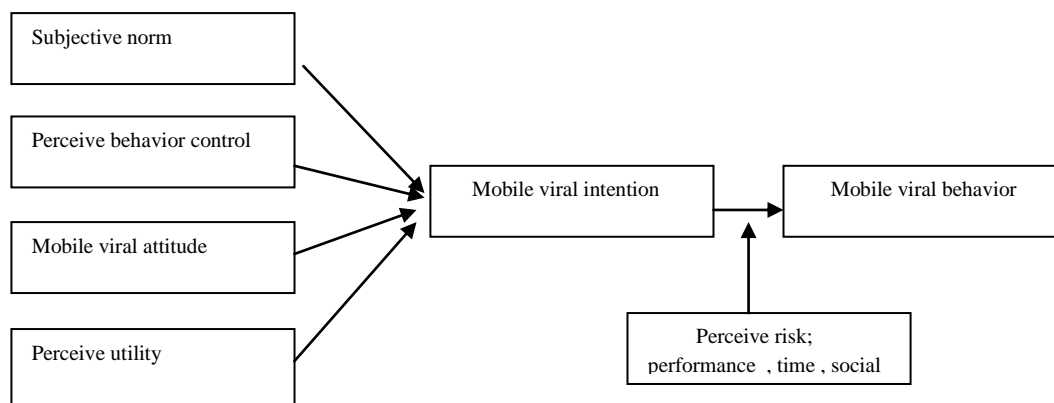
Attitude is a response of a situation or condition such as like/or dislike, good or bad, wrong or right.Yang et.al. (2012) stated that viral attitude as customer evaluation in distributing electronic message. Electronic message distribution that make a customer exchange information easier or broader scope will be responded very good.(Nyvseen et.al.,2005)

Viral intention is customers motivation in distributing electronic message to others (relatives or friends) (Gallowitzer,1999; Montavio and Kasprzyk,2008). Ajzen (1991) found viral intention will appear if there is motivation through perceived control behavior , subjective norm and customer viral attitude .



Intention to buy will affect buying behavior moderated by perceived risk (Meyers-Levy and Tybout,1989,Perrachio and Tybout,1996; Stayman et.al. 1992,Campbell and Goodstein,2001), Meyers-Levy(1989)stated five dimensions of perceived risk : (1) time risk, (2) performance risk, (3) social risk, (4) financial risk, and (5) psychological risk . Cost for distributing electronic message is very low so the study does not include financial risk. Dobele et.al.(2005) stated one of the advantage of viral marketing strategy is low cost. As well as financial risk the study does not include psychological risk because it is hard to measure the variable and also the risk is very low. Campbel and Goodstein (2001) explain if customer perceived the risk is low, it could not moderate the relationship of intention to buy and buying behavior

RESEARCH MODEL



Hypotheses of the study

Based on the literature review the proposed hypotheses of the study :

- H1 : Subjective norm will affect positively on mobile viral intention**
- H2 : Perceived behavioral control will affect positively on mobile viral intention**
- H3 : Mobile viral attitude will affect positively on mobile viral intention**
- H4 : Perceive utility will affect positively on mobile viral intention**
- H5 : Mobile viral intention will affect positively on mobile viral behavior**
- H5a: Time risk will moderate the affect of mobile viral intention on mobile viral behavior**
- H5b: Performance risk will moderate the affect of mobile viral intention on mobile viral behavior**
- H5c: Social risk will moderate the affect of mobile viral intention on mobile viral behavior**



METHOD

Research design

The study modify the mobile viral marketing model of Yang et,al (2012) by adding perceived risk as moderating variable. Unit analysis of the research is student in Jakarta, who use smart phone at least one month actively. The study is non contrive research and as cross sectional study.

Measurement

- Subjective norm measured by two items (Pavlou and Fygenson,2006).
- Perceived behavioral control measured by three items (Pavlou and Fygenson,2006)
- Mobile viral attitude measured by two items (Pavlou and Fygenson, 2006)
- Perceive utility measured by five items (Huang et.al,2009 and Nysveen et,al 2005 in Yang et.al, 2012)
- Mobile viral intention measured by two items (Huang et.al,2009 in Yang et.al,2012)
- Mobile viral behavior measured by one item (Huang et.al ,2006 in Yang at.al, 2012)
- Time risk measured by two items (Laroche et.al. 2004)
- Performance risk measured by two items (Laroche et.al. 2004)
- Social risk measured by one item (Laroche et.al. 2004)
- The study used six point Likert scale , 1 = absolutely disagree, 6 = absolutely agree.

Data collection

The number of student in Jakarta who use smart phone actively in the last one month is not clear. The study drew 165 students as sample using purposive sampling. Data collected by distributing questionnaire.

Data analysis

Factor loading of all variables > 0.45, so all items are valid, and all variables are reliable (coef cronbach alpha >0.60)

The study used Structural Equation modeling , cluster analysis for grouping the respondents into two groups (high and low risk). Multi group analysis is used for moderating variables testing



The result of goodness of fit of the research's model :

Chi square : 103.688. p- value ; 0.39, DF : 0.80' Chi square/DF ; 1.296

GFI ;.926, AGFI : .889, NFI ; .854, TLI ; .948, CFI ; .961, RMSEA ; .042

It means that the research model is fi

FINDING AND DISCUSSION

Hypothesis testing

Hypotheses	p value	conclusion
H ₁ : Subjective norm will affect positively on mobile viral intention	0.179	H ₁ not supported
H ₂ ;Perceived behavioral control will affect positively on mobile viral intention	0.035	H ₂ supported
H ₃ : Mobile viral attitude will affect positively on mobile viral intention	0.272	H ₃ not supported
H ₄ : Perceive utility will affect positively on mobile viral intention	0.002	H ₄ supported
H ₅ : Mobile viral intention will affect positively on mobile viral behavior	0,029	H ₅ supported
H _{5a} :Time risk will moderate the affect of mobile viral intention on mobile viral behavior	0.929	H _{5a} not supported
H _{5b} : Performance risk will moderate the affect of mobile viral intention on mobile viral behavior	0.015	H _{5b} supported
H _{5c} : Social risk will moderate the affect of mobile viral intention on mobile viral behavior	0.270	H _{5c} not supported

DISCUSSION

The study found Subjective norm affects mobile viral intention but not significant. Majority of the respondents in the study is female 20-24 years old . This respondents have subjective norm but because their technology capability lower than male, so their viral intention are low. Female has lower interest in using smart phone technology than male. They just as smart phone user. This barrier cause female has limitation in distributing electronic message. Osman et.al (2012) stated that female does not use smart phone maximally as male. The finding of the study does not support the study of Yang et.al. (2012).



The study found perceived behavioral control affects mobile viral intention positively. The higher the freedom consumers choose electronic message content so their intention to distribute electronic message to their family, and friends will be higher. The finding of the study support the study by Ajzen (1991), Pavlou and Fygenson (2006) and Khalifa and Cheng (2002).

The study found mobile viral attitude affects mobile viral intention but not significant/. Majority respondents of the study is female, 20-24 years old, and spend 1-2 hours a day for distributing electronic marketing message,. Nysveen et.al (2005) stated desire to distribute electronic marketing message of female is low. Receiving electronic marketing messages continuously and very diversify affect them to be wary/hesitate and their attitude will change very fast (Petty and Cacciopo, 1984). Dickerson (2004) stated that in this condition female will be defensive in receiving something new.

The research found perceived utility affects mobile viral intention significantly, The stronger customers perceive that the information he/she received is useful the stronger the intention to distribute electronic marketing message to their relation. The usefulness of information he/she received such as increase product knowledge, or as entertainment (Watjatrakul, 2011)

The study found mobile viral intention affects positively on mobile viral behavior significantly. The stronger mobile viral intention the stronger the behavior of customer for distributing the electronic marketing message to their families and friends. The finding of the study support Polka et.al. (2009), Jensen and Hansen (2006) and Yang et.al (2012)

One out of the three moderating variables has affect significantly the relationship between mobile viral intention and mobile viral behavior. Performance risk moderates the relationship between viral intention and viral behavior significantly. Low performance risk customers influence the relationship between mobile viral intention and mobile viral behavior stronger than high performance risk customers (.428 > .006), Lowe (2010) stated if performance of electrical marketing message appropriate with her/his role, it can strengthen the affect of viral attitude on viral behavior. The finding of the study support Lutz and Reilley (1974)

Time risk and social risk influence the affect of viral intention on viral behavior but not significant. Lutz and Reilley (1974) found there is no significant influence of social risk toward distribution of electronic marketing message (mobile viral behavior). Mitra et.al. (1999) found time risk moderate the relationship between mobile viral attitude and mobile viral behavior. It means the study does not support Mitra et.al (1999) finding.



CONCLUSION

Smart phone is one of mobile devices. Increasing smart phone user in Indonesia is exploited by marketer to implement mobile viral marketing. Based on 165 students in Jakarta, the study found that customer will distribute electronic marketing message (mobile viral marketing behavior) influenced by their mobile viral intention moderated by performance risk. Perceive behavior control when customers use smart phone and customers' perceive utility of smart phone affect mobile viral intention

Managerial Implication

Marketers who adopt mobile viral marketing must design useful, and entertain marketing message. They also have to reduce performance risk by sending messages that meet customers wants, in order to enforce mobile viral intention become mobile viral behavior, customers distribute electronic marketing message to their families and friends

Limitation and suggestion for further research

There are many types communication technology for implementing viral marketing, such as I pad, smart phone and Laptop etc. Respondent of the research only smart phone user. Future research suggested draw respondent who use another gadget whether it is mobile or not mobile. Another limitations, respondent of the study just students in Jakarta and the sample size only 165. Future research should draw the sample size more than 165 and not just student e.g private and public service employees.

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