The Effect of Technology Acceptance Model on Behavioral Intention to Use Facebook Live: The Mediating Role of Attitude

ผลกระทบของโมเดลการยอมรับเทคโนโลยีที่มีต่อพฤติกรรมความตั้งใจใช้ เฟซบุ๊คไลฟ์: บทบาทของทัศนคติในฐานะตัวแปรคั่นกลาง

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Abstract

According to the variety of availability of social network sites (SNSs), it is a challenge for marketer to select appropriate SNSs for marketing communication purpose. According to the Technology Acceptance Model (TAM), it allows marketers to investigate the degree of technology acceptance prior to incorporating it as a part of marketing communication strategy. As Facebook Live is a new feature, this study aims to investigate the effect of perceived usefulness and perceived ease of use on attitude, as well as behavioral intention to use Facebook Live. Also, this study proposes that there is a mediating effect of attitude on the relationship of perceived usefulness and perceived ease of use towards behavioral intention. The research was conducted on the 373 Facebook Live users in Bangkok. Regression was employed to test the effects of all proposed hypotheses. Whilst the results found that there are significant effect of perceived usefulness and perceived ease of use on attitude and behavioral intention to use Facebook Live, only partial mediation effect of attitude was found.

Keyword: The Technology Acceptance Model, Attitude, Behavioral Intention, Social Network Sites (SNSs), Facebook Live

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Introduction

As the trend of consumer behavior has changed and many companies has involved customers as co-creators (Jahn & Kunz, 2012), the role of social network sites (SNSs) has become prominent in marketing communication process (Kananukul, Jung, & Watchravesringkan, 2015; Paris, Lee, & Seery, 2010). SNSs enable consumers to communicate to other consumers as well as generate two-way communication with the company (Kananukul et al., 2015). SNSs can be defined as web-based services permitting individuals to construct public profiles, communicate with other users, and cross reference their list of connections with other users (Boyd & Ellison, 2007). The examples of well-known SNSs include Facebook, MySpace and Cyworld. In the business world, SNSs has been used for various purposes such as marketing channel and communication (Phakaratsakul & Jadesadalug, 2015; Pongpaew & Tiangsoongnern, 2016). For instance, Pongpaew and Tiangsoongnern (2016) investigated the influence of integrated advertising via corporate Facebook media on brand trust and loyalty which will enhance the company's communication strategies. This suggests that SNSs has recently become an important role in marketing strategies. In addition, SNSs also allow direct marketing communication to exist between producers and users enhancing rapid decision making among consumers, especially in the case of e-commerce (Palmer & Koenig-Lewis, 2009).

In Thailand, Facebook seems to receive much attention from social media user. As indicated in Thailand Internet User Profile 2016, Facebook is the most frequently used social media among consumers in Thailand with user penetration rate of 84.2, followed by Line and YouTube (82.0 and 76.9), respectively (Thailand internet user profile 2016). Recently, Facebook has added the new feature (i.e., Facebook Live) in order to respond with the new trends of online video consumption with an instant updates. This function will allow users to broadcast live video from the smartphones. Additionally, the new feature of Facebook is rather appealing to the younger users as social network is used to maintain their social capital with others (Cheung, Chiu, & Lee, 2011). The potential use of Facebook Live include broadcasting company announcement or any participatory event (DeMers, 2016).Thus, there is an opportunity for Facebook Live to become the tool used in marketing communication. However, as Facebook Live is new to the user, the degree of acceptance is fundamental marketers to investigate.

Due to its introductory stage of Facebook Live, thus the aims of this research are two-folds including; (1) to investigate the influence of perceived usefulness and perceived ease of use on attitude and intention to use Facebook Live; and (2) to examine the mediating effect

of user's attitude on the relationship of perceived usefulness and perceived ease of use towards intention to use Facebook Live. The findings of this research should be able to reassure marketers for the use of Facebook Live for marketing communication purpose.

Literature Review

The Technology Acceptance Model (TAM) is originally rooted from the Theory of Reasoned Action (TRA) and Theory of Planned Behavior (TPB) (Ajzen, 1991). In fact, the TPB model, explained as the individual's intention to perform certain behavior based on their attitudes (Ajzen, 1991), is extended the TRA model which assumed that consumers form conscious reasoning to their attitude and intention towards specific behaviors (Ajzen, 1991). According to the TAM, it can be articulated that the TAM is widely used to explain the behavior of consumer toward to the use of technology. The antecedents of the model include perceived usefulness (PU) and perceived ease of use (PEOU) (Davis, 1989). Perceived usefulness can be explained on how consumers find the potential technology is beneficial to perform a particular task, while perceived ease of use is explained how the consumers believe that the technology is easy enough to acquire the knowledge during the use of target technology (Kwon & Wen, 2010). Hence, the consumers intentionally use the new technology or SNSs should the consumers find them to be useful in performing the task and easy to learn and get familiar with the new technology and SNSs (Zhang, Zhao, & Tan, 2008). Likewise, this research hypothesizes that the intention of consumers to use Facebook Live will be affected by PU and PEOU.

H1: Perceived usefulness positively influences behavioral intention to use Facebook live

H2: Perceived ease of use positively influences behavioral intention to use Facebook live

The previous study of TAM has articulated the relationship between PU and PEOU on consumer's attitudes towards the use of new technology (Davis, 1989; Muhammad, Leng, Lada, & Ibrahim, 2011). It can be explain that if the consumer believe that the new technology is useful in performing certain task with less complex in obtaining the knowledge to use such technology (i.e., SNSs), the customer will have positive attitude toward the use of that particular technology. Likewise, for the case of Facebook Live, which is a new feature of Facebook, it is hypothesized in this research that if consumers believe in its usefulness and ease of use, they will have positive attitude toward the use of Facebook Live.

H3: Perceived usefulness positively influences attitude to use Facebook live

H4: Perceived ease of use positively influences attitude to use Facebook live

The extant research on the relationship between consumer attitudes and behavioral intention has been continuously investigated explained by the theory of planned behavior (TPB) (Ajzen, 1991; Ajzen & Madden, 1986; Creyer, 1997; Hartmann & Apaolaza-Ibáñez, 2012). According to the TPB, it can be understood that an existence of individual's intention will lead to an execution of specific behavior. However, not all consumer behaviors can be predicted in according to their intention as other stimuluses might affect consumer's decision, but the greater degree of intention can predict the probability actual behavior (Ajzen, 1991; Creyer, 1997). The TPB suggests that attitude—measuring the belief on the relationship between an object and specific outcomes—is one of the key antecedents used in predicting behavioral intention (Ajzen, 1991). In other words, the higher degree of consumer's attitudes toward the attributes in performing certain behavior, the higher degree of behavior intention is predicted.

As the TAM suggests the effect of PU and PEOU on the behavioral intention (Davis, 1989), there seems to be a missing link of attitude towards the use of Facebook Live as a mediator of such relationship. The study of Paris et al. (2010), the findings indicate that PU and PEOU have indirect effect on behavioral intention through the attitude to use Facebook. Therefore, this research hypothesizes that behavioral intention to use Facebook Live will be affected by PU and PEOU with the mediating role of attitude towards the use of Facebook Live.

H5: The relationship between perceived usefulness and behavioral intention will be mediated by the degree of attitude to use Facebook Live

H6: The relationship between perceived ease of use and behavioral intention will be mediated by the degree of attitude to use Facebook Live

To summarize all the proposed hypotheses investigated in this study, Figure 1 illustrate the research conceptual model accordingly. The theoretical underpinning these relationships are explained in the previous section.

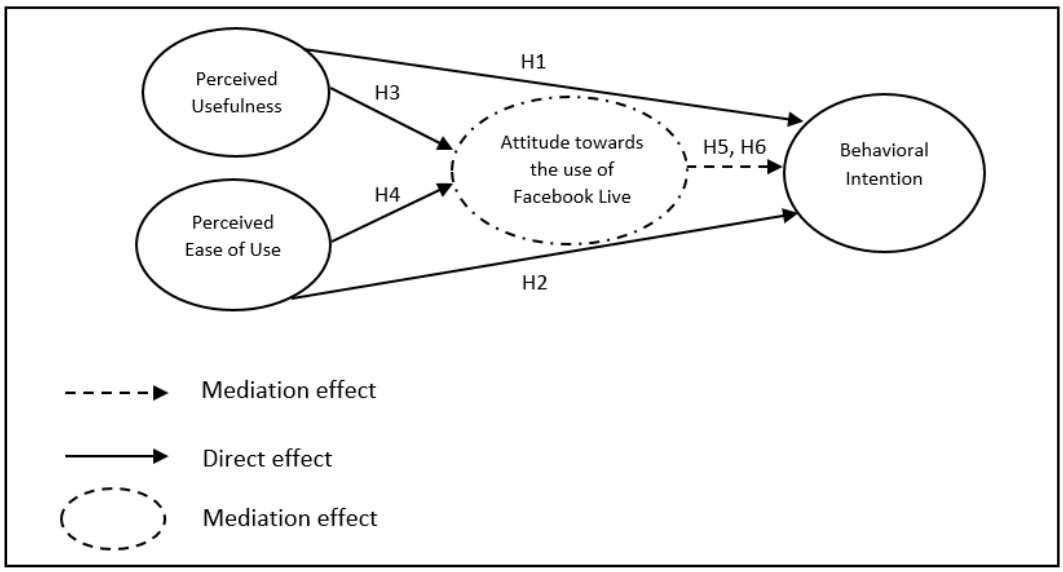


Figure 1: Research Conceptual Model

Research Methodology

A sample of Facebook Live users in Bangkok area was collected using convenience sampling technique. A self-administered questionnaire with the closed-end and scale type format was used to ask perceived usefulness, perceived ease of use, attitude and behavioral intention to use Facebook Live. The study was conducted during October 2016 – February 2017.

The measurements used for this study are established scales to measure the constructs including perceived usefulness, perceived ease of use, attitude, and behavioral intention. As for PU (four items), PEOU (five items), and attitude (five items) scales were adapted from Ruiz-Mafe, Martí-Parreño, and Sanz-Blas (2014). A three-item scale of behavioral intention was adapted from Lu and Yang (2014). The Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree) were employed for each of the questions in the questionnaire. An illustration of the measurements used in this research shows in Table 1, with acceptable Cronbach's alpha coefficient of .70 indicating these scales are reliable to be repeated (Nunnally & Bernstein, 1994):

Table 1: Measurements and Their Cronbach's Alphas

Variable	Number of Items	Cronbach's Alpha Coefficient (α)
Perceived Usefulness (Ruiz-Mafe et al., 2014)	4	.80
Perceived Ease of Use (Ruiz-Mafe et al., 2014)	5	.84
Attitude toward Facebook Live (Ruiz-Mafe et al., 2014)	5	.87
Behavioral Intention (Lu & Yang, 2014)	3	.91

Once the questionnaires were distributed to Facebook Live users in Bangkok area, 373 questionnaires were completed and returned. The data were analyze using a number of statistical tools include reliability test and Pearson's correlation coefficient. The hypothesized relationships were tested using regression. Prior to hypothesis testing, a reliability analysis was performed for each of the independent and dependent variables, illustrated in Table 2.

Table 2: Reliability Analysis

Construct	Cronbach's Alpha Coefficient (α)
Perceived Usefulness	.852
Perceived Ease of Use	.888
Attitude toward Facebook Live	.897
Behavioral Intention	.885

Accordingly, Cronbach alpha coefficient for all scales exceeded .80, which indicate excellent reliability for all constructs under study including PU, PEOU, attitude, and behavioral intention as Cronbach alpha coefficients obtain values of above .70. Thus, the results of reliability test are considered to be acceptable according to Nunnally and Bernstein (1994), illustrated in Table 2.

Research Findings

The questionnaires were distributed randomly to Facebook Live users in Bangkok area. According to demographic characteristics of the respondents, 57.9% of Thai Facebook Live users are female aged between 20-29 years old (69.7%). Most of the respondents are students (51.2%) and singles (90.3%). With the 373 respondents, 58.7% use Facebook Live on average of 1-2 times daily via smart phone (72.1%). Most of the time, 54.4% of the respondents use Facebook Live from home. In the following section, inferential statistics are conducted to investigate the fundamental assumption and hypothesis testing.

Table 3: Pearson's Correlation Coefficient

	PU	PEOU	Attitude	BI
PU	1	.865**	.841**	.779**
PEOU	.865**	1	.844**	.778**
Attitude	.841**	.844**	1	.797**
BI	.779**	.778**	.797**	1

Prior to hypothesis testing, the Pearson correlation coefficient is performed to examine for multicollinearity. It was found that there is no substantial correlation between any of the predictors (R>.9) (Field, 2005), as illustrates in Table 3.

Table 4: The Relationship between Perceived Usefulness and Behavioral Intention to Use Facebook Live

Variable	R	R^2	Adj. R^2	Std. Error
	.779	*.607*	*.606*	*.533*
Perceived Usefulness	B	SE B	**ß**	**Sig.**
	.923	*.039*	*.779*	*.000*

p < .05, F = 574.101

Illustrated in Table 4, the hypothesis testing on a relationship between PU and behavioral intention to use Facebook Live (H1) was examined using simple regression. The results show that the predictor can be explained 60.7% of the variance (ß = .779, *p*<.001) where PU significantly influences behavioral intention to use Facebook Live. Therefore, hypothesis H1 was accepted.

Table 5: The Relationship between Perceived Ease of Use and Behavioral Intention to Use Facebook Live

Variable	R	R^2	Adj. R^2	Std. Error
	.778	*.605*	*.604*	*.535*
Perceived Ease of Use	B	SE B	**ß**	**Sig.**
	.922	*.039*	*.778*	*.000*

p < .05, F = 567.928

Illustrated in Table 5, the hypothesis testing on a relationship between PEOU and behavioral intention to use Facebook Live (H2) was examined using simple regression. The results show that the predictor can be explained 60.5% of the variance (ß = .778, *p*<.001)

where PEOU significantly influences behavioral intention to use Facebook Live. Therefore, hypothesis H2 was accepted.

Table 6: The Relationship between Perceived Usefulness and Attitude towards the Use of Facebook Live

Variable	R	R^2	Adj. R^2	Std. Error
	.841	*.707*	*.706*	*.405*
Perceived Usefulness	B	SE B	**β**	**Sig.**
	.875	*.029*	*.841*	*.000*

p < .05, F = 893.608

Illustrated in Table 6, the hypothesis testing on a relationship between PU and attitude towards the use of Facebook Live (H3) was examined using simple regression. The results show that the predictor can be explained 70.7% of the variance (β = .841, *p*<.001) where PU significantly influences user's attitudes towards the use of Facebook Live. Therefore, hypothesis H3 was accepted.

Table 7: The Relationship between Perceived Ease of Use and Attitude towards the Use of Facebook Live

Variable	R	R^2	Adj. R^2	Std. Error
	.844	*.713*	*.712*	*.401*
Perceived Ease of Use	B	SE B	**β**	**Sig.**
	.879	*.029*	*.844*	*.000*

p < .05, F = 920.976

Illustrated in Table 7, the hypothesis testing on a relationship between PEOU and attitude towards the use of Facebook Live (H4) was examined using simple regression. The results show that the predictor can be explained 71.3% of the variance (β = .844, *p*<.001) where PEOU significantly influences user's attitudes towards the use of Facebook Live. Therefore, hypothesis H4 was accepted.

Table 8: The Mediator Effects of Attitude to Use Facebook Live

Testing Steps in Mediation Model	B	SE B	95% CI	β
Testing Step 1:				
Dependent: Behavioral Intention				
Predictor: Perceived Usefulness	.923	.039	.848, .999	.779**

Testing Steps in Mediation Model	B	SE B	95% CI	β
Testing Step 2:				
Dependent: Attitude to Use Facebook Live				
Predictor: Perceived Usefulness	.875	.029	.818, .933	.841**
Testing Step 3:				
Dependent: Behavioral Intention				
Predictor: Attitude to Use Facebook Live	.907	.036	.837, .978	.797**
Testing Step 4:				
Dependent: Behavioral Intention				
Mediator: Attitude to Use Facebook Live	.552	.062	.429, .674	.485**
Predictor: Perceived Usefulness	.441	.065	.313, .568	.372**

As illustrated in Table 8, the results found that there are significant relationships in steps 1-3 with the level of significant at .05, presumably mediation effect exists. However, in the Step 4 model, it indicates that the relationship between PU and behavioral intention is partially mediated by user's attitudes as the effect of PU on behavioral intention has weaken when attitude is controlled (Baron & Kenny, 1986; Frazier, Tix, & Barron, 2004). Thus, hypothesis H5 was accepted.

Table 9: The Mediator Effects of Attitude to Use Facebook Live

Testing Steps in Mediation Model	B	SE B	95% CI	β
Testing Step 1:				
Dependent: Behavioral Intention				
Predictor: Perceived Ease of Use	.922	.039	.846, .998	.778**
Testing Step 2:				
Dependent: Attitude to Use Facebook Live				
Predictor: Perceived Ease of Use	.879	.029	.822, .936	.844**
Testing Step 3:				
Dependent: Behavioral Intention				
Predictor: Attitude to Use Facebook Live	.907	.036	.837, 978	.797**
Testing Step 4:				
Dependent: Behavioral Intention				
Mediator: Attitude to Use Facebook Live	.558	.063	.434, .682	.490**
Predictor: Perceived Ease of Use	.431	.066	.302, .561	.364**

As illustrated in Table 9, the results found that there are significant relationships in steps 1-3 with the level of significant at .05, presumably mediation effect exists. However, in the Step 4 model, it indicates that the relationship between PEOU and behavioral intention is partially mediated by user's attitudes as the effect of PEOU on behavioral intention has weaken when attitude is controlled (Baron & Kenny, 1986; Frazier et al., 2004).Thus, hypothesis H6 was accepted.

Conclusion and Discussion

As suggested from the TAM (Davis, 1989; Muhammad et al., 2011), this research found that both perceived usefulness and perceived ease of use will affect user's attitude and behavioral intention to use Facebook Live. Indeed, attitude of users toward the use of Facebook Live will mediate the relationship of perceived usefulness and perceived ease of use on behavioral intention. In other word, Facebook Live users will intentionally use it if they believe that (i) Facebook Live is useful for the task that they intended to perform; and (ii) it must be rather easy to use Facebook Live. However, the partial mediation of attitude can be explain that attitude account for some mediation effect on the relationship of perceived usefulness and perceived east of use towards behavioral intention, but not for all (Baron & Kenny, 1986). This suggest that attitude not only has the direct effect on behavioral intention, but it also directly affected by both perceived usefulness and perceived ease of use. Nevertheless, the relationship between perceived usefulness and perceived ease on behavioral intention to use Facebook Live is still significantly affected even without the mediating effect of attitude.

The finding of this research contributes to practitioners who interested in using Facebook Live as a tool to communicate to consumers. It suggests that Facebook Live users have positive believe toward the usefulness and ease of use of Facebook Live which indicates that users do not have any objection on the use of Facebook Live. Therefore, Facebook Live is another alternative for marketing communication. However, this study has its limitation, in which the conclusion drew from this study can only support the use of Facebook Live, but success of using Facebook Live as a marketing strategy is relied on other factors such as the content within the Facebook Live. Hence, further research should focus on the content marketing included in Facebook Live and perhaps compared Facebook Live with other similar SNSs such as Instagram Live to investigate their impact on consumers in terms of preference.

Appendix

List of Abbreviations and Acronyms

PEOU	Perceived Ease of Use	It explains how the consumers believe that the technology is easy enough to acquire the knowledge during the use of target technology (Kwon & Wen, 2010).
PU	Perceived Usefulness	It explains how consumers find the potential technology is beneficial to perform a particular task (Kwon & Wen, 2010).
SNSs	Social Network Sites	They are web-based services permitting individuals to construct public profiles, communicate with other users, and cross reference their list of connections with other users (Boyd & Ellison, 2007).
TAM	The Technology Acceptance Model	It explains the behavior of consumer toward to the use of technology (Davis, 1989).
TPB	Theory of Planned Behavior	It explains the individual's intention to perform certain behavior based on their attitudes (Ajzen, 1991).
TRA	Theory of Reasoned Action	It is a model that explains how consumers form conscious reasoning to their attitude and intention towards specific behaviors (Ajzen, 1991).

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