Designing and Emotion
Really Affect Loyalty in Mobile Shopping Application?

Phanuwat Phattharakittisakul, and Panitharn Juntongjin

Abstract—Mobile commerce (M-commerce) is an online business transactions and services conducted by using a mobile device (e.g., smartphone, tablet, and phablet) that communicates over a wireless telecommunication networks. M-commerce offers the convenience to make transactions or place an order anytime and anywhere. This advantage can bring a great opportunity and a great competitive advantage to companies to better succeed in doing business online. Therefore, many companies have decided to invest in M-commerce via mobile shopping application. Mobile shopping application (Mobile shopping app) as a distribution channel has been increasing in popularity. However, due to the growing number of companies providing services through mobile shopping apps, consumers are being offered more choices of mobile shopping apps when they want to buy products. To keep loyal users, it comprises of an attitudinal commitment and intention to revisit the mobile shopping app, which is very important in the current high competitive situation. Although there are many factors that affect loyalty, empirical information from user reviews has shown that mobile shopping app should have a good design such as work in a horizontal position. In addition, users also reveal their feelings or emotions resulting from the use. The two mentioned factors – mobile shopping app design and emotion – can influence users’ satisfaction which leads to loyalty in the end. However, according to prior researches, these factors have not been adequately studied in order to describe the process of creating loyalty in the M-commerce context that provides service via mobile shopping app. Based on the expectation confirmation model; the authors purpose a conceptual model integrating emotion and mobile shopping app design into the model. The authors propose that if mobile shopping app is well designed, it will achieve consistency with what users expect. When users perceived confirmation expectation, the emotion after using the app will help to promote the satisfaction which is the main factor influencing loyalty. The objective of this study is to propose a conceptual model that can better explain customer loyalty in mobile shopping app. Findings may be useful for firms to better succeed in mobile commerce.

Index Terms—Mobile shopping applications, Mobile shopping app design, Loyalty, Emotion, Mobile commerce.

I. INTRODUCTION

At present, there is mobile broadband developed continuously. This is the significant factor motivating marketing activities, online shopping, and online service into Mobile commerce [17]. According to research of shopping behavior in Asia, 2014 by MasterCard, it revealed that Thailand ranks number 4 from 14 countries, which 58.8% of consumers mostly shop via smart phone. The main reason for this is the convenience that consumers can buy product no matter where they are. Furthermore, increasing number of mobile applications makes online shopping become easier than ever before [19]. Mobile application is an application software developed specifically to use on small and wireless computing devices, such as smartphones or tablets, rather than personal computers. This application software can be categorized by the using benefit; for example, mobile application used for watching movies, clip movies, listening to music, playing games, or entertainment activities can be defined as mobile entertainment application, and mobile application used for online shopping can be defined as mobile shopping application [21].

The Mastercard’s research accords with present situation that corporations such as KAIDEE.COM, Weloveshopping, iTruemart, ZALORA, LnwShop, Lazada, which are E-commerce providers, expand the way for M-commerce service through mobile shopping application (mobile shopping app), which is easy to download and can be used for free. This shows that corporations recognize the importance of M-commerce service via mobile shopping app. Due to the growing number of companies providing services through mobile shopping apps, consumers are being offered more choices. So firms have to focus on creating loyalty of consumers, because it is important for business. Aaker [as cited in 14], a strategy expert in creating worldwide market marks, explained about loyalty that it is an important key to increase market share and can also make a stable competitive advantage. So firms have to focus on searching factors making a customers and users becomes loyalty whether context of general shopping or M-commerce [14],[26].

To understand factors relating to using mobile shopping app, the authors have done an exploratory research for base information from Google play store, source of mobile shopping app for smart phone system as android. The authors found that there is an interesting comment of sample from who used mobile shopping app of Alibaba to purchase online product, October 24, 2015, “Enjoy using the app. Provision should be made for the app to be used in a horizontal position though.” By this comment, it shows that corporations should focus on designing mobile shopping app to meet requirement and sentiment happening when it must be used. Even though people are interested in factor of emotion in many contexts, it is new for the context of M-commerce which shopping services providing via mobile shopping app. Hence, the authors want to study emotional state factor in deep aspect including taking

Manuscript received April 1, 2016.
Phanuwat Phattharakittisakul is with Faculty of Commerce and Accountancy, Thammasat University, Bangkok 10200, Thailand.
Panitharn Juntongjin (D.B.A.) is a full-time faculty member at Department of Marketing, Faculty of Commerce and Accountancy, Thammasat University, Bangkok 10200, Thailand.

http://dx.doi.org/10.15242/IAE.IAE0416018

51
good attribute of application software design as mobile application to better explain the effect that influences on loyalty of using mobile shopping app. As a result, corporations can apply the knowledge gained from this study to accomplish their business goal of using M-commerce as a channel of distribution.

II. THEORETICAL FRAMEWORK AND PROPOSITIONS

In order to predict loyalty in mobile shopping app, the authors developed a model encompassing the expectation confirmation model (ECM model) [1], PAD model [as cited in 26], mobile application usability: conceptualization and instrument development [13] and theory of cognitive appraisal [24].

Expectation Confirmation Model: ECM. This research uses Expectation Confirmation Model to make basic conceptual framework and this model has been developed by Bhattacherjee in 2001 and has been studied about factors affecting intention of continuously using information system (IS). This can summarize that confirmation affects satisfaction and perceived usefulness, while perceived usefulness also affects satisfaction. Furthermore, both perceived usefulness and satisfaction affect IS continuance intention. However, in the current investigation, loyalty replaces continuance intention as the dependent variable which influenced by perceived usefulness and satisfaction. Therefore, this study investigates confirmation, satisfaction, perceived usefulness and loyalty to apply for studying with the factors of mobile shopping app design, and emotion.

PAD model. As study of Mehrabian and Russel [as cited in 27], they found that environments influence people through their emotional state impact which influences on behavior response. Emotional state can be provided by three dimensions: pleasure, arousal, and dominance. Eroglu et al. [25] took PAD model to create model for forecasting environment in type of online shopping and they found that it related to emotional state and made a response for using online shopping; for example, be confident, more often use service, take longer time on online shop, and be satisfy. This result accords with research of Koo and Ju [7] and Hsieh et al. [15] and it showed that environment of online shopping or web design including used colors are factors affecting emotional state that can influence on user’s respond. Nonetheless, component of satisfied or unsatisfied which is a part of dimension of pleasure is not used in this research, because the authors want to prove that satisfaction is the result of emotion [as cited in 20],[20],[18].

Mobile application (Mobile Application Usability: Conceptualization and Instrument Development). Hoehle and Venkatesh [13] developed conceptualization and instrument for measuring usability of mobile applications which adapted from Apple’s user experience guideline. This concept is summarized that application design, application utility, and user interface graphics influence on mobile application loyalty. Interestingly, factor of application design is the strongest effect. Application design is defined as the degree to which a user perceives that mobile application is generally designed well. According to conceptualization, users are influenced by several factors such as data preservation, instant start, orientation, and branding when evaluating the overall design of a mobile application. Thus, application design factors can be provided by four dimensions (i.e., branding, data preservation, instant start, and orientation). So the authors use this conceptualization and take factor of application design to study loyalty of using mobile shopping app.

Theory of Cognitive Appraisal [24] stated about conceptuality and theory concerning cognitive appraisal that respond behavior of human to different situation or environment happens from perception and estimation or different interpret by cognitive process, then affects emotion and each one has different respond. For this research, factor of perceived usefulness and confirmation in ECM model can be seen as cognitive appraisal. [11],[1],[3].

Furthermore, a literature review of factors relating to loyalty (i.e., mobile shopping app design, confirmation, perceived usefulness, emotion, satisfaction, and loyalty) was undertaken in order to better understand the underlying motivators that will lead to loyalty.

A. Loyalty

Loyalty is about when users have attitudinal commitment and intention to revisit the website in the near future or have behavioral re-purchase intention [14],[8],[28]. For context of online shopping, loyalty is important to make online shopping success in long term [12] and context of M-commerce is also the same. Lin and Wang [14] mentioned that it is not only important to find new customers for M-commerce providers, but also important to keep existing customers to make a confidence that profit of business still keeps go on. Because firm has to invest in money and period of time to create relationship with customers. Therefore, it has to focus on searching factors making customers have loyalty to product or service. This is the same way with research of Deng et al. [29], which study about satisfaction and loyalty of using mobile instant message (MIM) of Chinese users and it said that keeping existing users and increasing loyalty of customers are the most important and can make competitive advantage for M-commerce providers.

B. Satisfaction

Satisfaction means that consumers know that consumption can fulfill requirement or target [as cited in 23] and fulfilling that makes satisfaction also influences on loyalty. That is, when customers satisfy with the products or services that the organization provided, it can have impact on loyalty of those particular consumers. As a result, although the consumers may not repurchase the product soon after the purchasing, when they want to buy the product again in the future, they will return to buy the product from the same firms not from the competitors. Therefore, firms should present product or service to match or to exceed users’ requirement in order to achieve satisfaction, because it is an essential factor making users still use the product from the same firm or not. On the other hand, if there is dissatisfaction in product or service,
users will not use them and business will lose customers base and then affect profit in the future [16]. Deng et al. [29] who study in satisfaction and loyalty of customers for using mobile instant message (MIM) in China. This study confirmed that emotion can affect satisfaction of using MIM and satisfaction also influences on users’ loyalty.

For the context of online shopping, Valvi and West [4] focuses on factors affecting loyalty of using 5 websites of book-online selling in England: Amazon.co.uk, ebaY.co.uk, Waterstones.com, Blackwell.co.uk, and AbeBooks.co.uk. The study used questionnaire from sample students and used ECM theory to be conceptualization. It found that factor of worth perception influences on satisfaction and factor of satisfaction influences on loyalty to website. For factor of designing website, it influences on loyalty, while factor of price influences on reliability. This can be summarized that it cannot improve customers’ loyalty without making a satisfaction to customers first, so corporations should focus on making a satisfaction to users and also can say that the more users satisfy, the more loyalty occurs [4],[29]. Therefore, satisfaction is the important factor influencing on loyalty and can be used to make following research proposition:

Proposition 1: Satisfaction influences positively on Loyalty.

C. Emotion

Emotion is used for studying customers’ behavior from past to present in context of both offline shopping and online shopping [22],[25],[27],[20]. Emotions can occur from consuming product. It is emotional response while using or occur from experience of using product. This can be measured by separating in group of emotion and expression such as funny, angry or scared. It also can explain with dimensions which is a pair of bipolar such as satisfy/dissatisfy, relax/strength, peaceful/excited [as cited in 22].

However, Hunt [as cited in 1] said that satisfaction occurs from emotion. After using product or service, it makes a pleasure (emotion) as expected. So consumers are satisfied and it is the same way with research of Machleit and Mantel [18], who study about emotional response to outside factors such as environment for shopping and inside factor of consumers; for example, cost and time that affect satisfaction. They studied 2 groups of respondents, one group of students and another group of none students, using survey information by giving questionnaire to the respondents after they used product. As a result, they can summarize that outside factors; which are shop environment, finding wanted product, and staff being able to help, can influence on emotion more than inside factors and the happening emotion obviously affects satisfaction and making sample situation for shopping in laboratory. For testing, it will do deeply in detail of emotion in dimensions with different situations. So it can be concluded that emotional experience occurring by shopping from outside factors is more than inside factors. Finally, it will influence on consumers’ satisfaction. Consistent with these studies, Deng et al. [29], who studied satisfaction and loyalty of customers using mobile instant message (MIM) in China. Their findings show that emotion influence on satisfaction of using MIM. Emotion means users’ mental needs for MIM. This means that, when using MIM, customer will have fun or enjoy from sending an interesting pictures or jokes icons to their friends. Thus, users’ emotion can be satisfied through MIM services. Hsu and Lin [6] studied factors that can influence user’s intention to purchase paid mobile applications. The study indicates that emotion arises as a result of confirmation whether mobile applications satisfy their needs or not. Then, emotion can directly drive user’s satisfaction. In other words, if users feel pleasure when they use mobile application, it will also significantly affect their satisfaction.

Moreover, due to PAD model, this research applies three dimensions (i.e., pleasure, arousal, and dominance) to measure the emotional state. According to this information, another proposition can be written as follows:

Proposition 2: Emotion influences positively on Satisfaction

D. Perceived Usefulness

Perceived usefulness is about perceiving or believing of users who expect to get benefit for using the IS [10],[2]. A Mobile shopping app is a form of IS. As such, confirmation, perceived usefulness, satisfaction and by extension loyalty in mobile shopping app, can be partially explained by ECM model. According to ECM model, the continuance intention to use IS is determined by their satisfaction and perceived usefulness of IS use. User satisfaction is influenced by their confirmation of expectation from prior IS use and perceived usefulness. Perceived usefulness is influenced by users’ confirmation level [1]. In the current investigation, loyalty replaces continuance intention as the dependent variable which influenced by perceived usefulness and satisfaction.

Literature has found evidence of a relation between perceived usefulness, satisfaction and loyalty in web shopping which is also a form of IS. Cyr et al. [8] studied which factors create loyalty in the web shopping context. They tested with students who were studying in both Bachelor’s degree and higher degree, they also included 2 university officers from Canada, by making a website for the sample group to purchase ticket of concert and do questionnaire. They found that perceived usefulness influences loyalty of using website. Wong et al. [28] studied about the effects of technology acceptance factors on satisfaction and loyalty in context of online shopping in three states of Malaysia where have a higher number of internet users. Their research was specifically interested in users who had made an online purchase at least once in the previous three months. Results of research found that loyalty and satisfaction in web shopping are influenced by their perceived usefulness. Additionally, according to the theory of cognitive appraisal, studies have shown that emotional reactions from cognitive appraisal of the situation or causal attribution of events. Users may evaluate the situation (in this case is the using of mobile shopping app for online shopping) using goal relevance, goal congruence and goal content as the three primary appraisal criteria [24]. This cognitive appraisal results in users’
evaluation of the potential consequences (perceived usefulness), which should be the base of their emotional. For example, if users appraise the mobile shopping app as useful for their online shopping, they will develop positive emotions. Due to this, it can be proposed as the following:

Proposition 3: Perceived Usefulness positively influences on Emotion.

Proposition 4: Perceived Usefulness positively influences on Satisfaction.

Proposition 5: Perceived Usefulness positively influences on Loyalty.

E. Confirmation

This is a users’ comparison between what they expect before using and actual performance of system after using, as a result level of confirmation occurred as users compare [1]. According to ECM model, factors can occur when users start using any IS, users will expect first and when they know the performance after using. They will have decision process for accepting to use IS by comparing between what they have been expected and what the IS can actually perform when using the IS. This will reveal as confirmation and it influences on perceived usefulness and satisfaction as well [1].

The relationship between confirmation, emotion, perceived usefulness and satisfaction has already been tested in previous research focused on mobile application and a strong positive correlation was found between three variables. Based on modified ECM model, Oghuma et al. [5], who study about factors influencing on continuance intention to use mobile instant messaging application (MIM). Research shows that when users perceive about service performance, confirmation occurs and influences on perceived usefulness and satisfaction for using MIM. Furthermore, perceived usefulness also influences on satisfaction. Hsu and Lin [6] study factors influencing user’s intention to purchase paid mobile applications for experienced users and potential users. The same results for both group indicated that confirmation was positively related to emotion. Factors including emotion and confirmation play a critical role in influencing user’s satisfaction. Satisfaction is only an important factor for experienced users but not for potential users. This finding suggests that users may need to confirm whether mobile applications satisfy their needs or not before purchasing mobile applications because confirmation influences their emotion and satisfaction. Therefore, mobile applications should have developed to encourage their emotion to raise user satisfaction. The result of this study is consistent with the theory of cognitive appraisal, emotion reactions from cognitive appraisal. The cognitive appraisal could be derived from both perceived performance and their expectation. For example, if a user has a low expectation than actual performance (in this case is expectation and performance of using mobile shopping app for online shopping), this may lead to greater confirmation, which in turn positive influence user’s emotion than other user who has a high expectation prior using mobile shopping app for online shopping. According to explained information, the authors propose this following:

Proposition 6: Confirmation positively influences on perceived Usefulness.

Proposition 7: Confirmation positively influences on Emotion.

Proposition 8: Confirmation positively influences on Satisfaction.

F. Mobile Shopping App Design

According to mobile application usability conceptualization and survey instrument, Application design is the degree to which a user perceives that mobile application is generally designed well and determined empirically by four dimensions; measuring branding, data preservation, instant start, and orientation [13]. Their conceptualization shown that users are influenced by these four dimensions when evaluating the overall design of a mobile application. If mobile application provides adequate these four dimensions, then they would be considered to be a good design. When users perceive the mobile application provided a good design, users loyalty toward the mobile applications was conducted. Mobile shopping app is classified as one of the mobile application. Therefore, it is appropriate to apply application design factor to explain the loyalty in mobile shopping app.

Mobile shopping apps are the choice for online shopping on mobile devices. This is the exclusive choice that differ from using website on computer, so providers should attend the design and consider about making users perceive that the mobile application integrates branding appropriately (Branding), preserves data automatically (Data preservation) including starts instantly after switching it on (Instant start). Displaying as wanted direction either horizontal or vertical (Orientation) to make users perceive that it is generally well designed can make a loyalty for using [13]. In the same time, attribute of readiness when has to be used or instant start serve performance to users [9]. Therefore, the good design can influence on confirmation, because performance is what users expect before using, and if it is as users expect, it will serve to have confirmation [1]. Hence, the authors proposed that:

Proposition 9: Mobile shopping app design positively influences on Loyalty.

Proposition 10: Mobile shopping app design positively influences on Confirmation.

III. THE PROPOSED MODEL

This research uses expectation confirmation model as an initial for creating conceptual framework, focusing on post-purchase evaluation and affective response to the overall product or service experience (Post-consumption). It accords with target group, the experienced users of various mobile shopping apps who could answer the questions about confirmation, perceived usefulness, emotion and satisfaction. The authors have added two variables: Mobile shopping app design and Emotion for studying factor influencing on loyalty as showed in Figure 1.
This research aims to study extensively and clearly in factors influencing on users’ loyalty in the context of M-commerce, being service via mobile shopping app, which is specifically designed to set up and to use on mobile device. Using extant models for predicting loyalty in mobile shopping app by individuals may be inadequate, so this research has to use factor of design which is a good specific feature for mobile application design and emotion happening from using to apply with base of ECM model. At the same time, corporation can use the propose model to succeed in M-commerce business, which services via mobile shopping application. Customer loyalty in mobile shopping app is very importance not only for researchers but also for practitioners. The purposed framework has several implications for developers, managers and researchers who want to assess the likelihood of success of new or existing mobile shopping apps.

For researchers, this study provides a conceptual framework of the factors contributing to loyalty in mobile shopping app by using ECM as base model. First, according to ECM model, perceived usefulness which influenced by confirmation plays a crucial role as an extrinsic motivation for IS continuance intention. The proposed conceptual framework, loyalty replaces continuance intention and adds factor of designing in mobile shopping app which has direct effect on loyalty and indirect effect on extrinsic motivation (perceived usefulness), through confirmation. Second, in addition to the extrinsic motivation, the conceptual framework proposes that intrinsic motivator such as emotion need to be added to better explain loyalty in mobile shopping app. Emotion could be derived from confirmation; whether mobile shopping app deliver a good performance that meet their expectation and perceived usefulness or not, and whether mobile shopping app can enhance their online shopping. Furthermore, emotion is also the determinants of customer satisfaction. As mentioned above, the authors believe that adding antecedents of loyalty in our conceptual framework will be in a complementary manner to enhance the predictive capability of ECM model.

For practitioners, the proposed framework will help managers to understand what drives the loyalty in mobile shopping app. Customer loyalty should be able to develop if the formation of confirmation, perceived usefulness, satisfaction, emotion and mobile shopping app design are appropriately managed. First, according to the conceptual framework, the proposed attempts to deeply understand what are the factors influencing loyalty by including of designing in mobile shopping app and emotional factors. As a result, manager may be more carefully pay attention to the development of such internal mental stage (emotion). Accordingly, in order to increase customer loyalty, it is important for mobile shopping app to be a pleasure, arousal, or dominance distribution channel for online shoppers which may become favorably disposed and may lead to customer satisfaction (satisfaction play a critical role influencing loyalty). Second, in order to increase customer emotion and satisfaction, our conceptual framework adds mobile shopping app design factor to be indirect effect on satisfaction, through confirmation. However, mobile shopping apps are designed to run on mobile device, so developers need to recognize that mobile shopping apps are different from their personal computer application. Design of mobile shopping app should focus on the unique advantages of mobile technology and make sure that the mobile shopping app integrates branding appropriately (Branding), preserves data automatically (Data preservation) including starts instantly after switching it on (Instant start) and also displaying as wanted direction either horizontal or vertical (Orientation) to make users perceive that it is generally well designed and meet their expectation which may lead to confirmation that directly affect not only emotion and satisfaction but also indirectly affect perceived usefulness. Thus, creating and maintaining customer loyalty through its antecedents is an appropriate and necessary strategy for developing overall customer loyalty. Finally, we believe that our conceptual framework also constitutes a basis for managers and developers to establish an assessment framework for new or existing distribution channel; i.e. mobile shopping apps. As a result, the mobile shopping app will be a better online shopping experience for customers and likelihood of success for M-commerce business.

IV. CONTRIBUTIONS

REFERENCES


