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E-lifestyle, Customer Satisfaction and Loyalty among Mobile Subscribers in Thailand

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ABSTRACT

This paper aims at assessing the relationship between e-lifestyle, customer satisfaction (CS), and loyalty among mobile service subscribers in Thailand. The results reveal that e-lifestyle has a substantial effect on CS. Subsequently, CS affects strongly on consumer loyalty towards telecommunication service providers. Moreover, CS mediates the relationship between e-lifestyle and consumer loyalty. The study concludes that e-lifestyle has to be integrated into marketing strategies and customer relationship management in order to sustain consumer loyalty. From a practical point of view, the findings of this study could be used to inform businesses, particularly those in the telecommunication services industry in developing countries on the ways of enhancing CS and loyalty.

Keywords: Customer Satisfaction, E-lifestyle, Loyalty
JEL Classifications: M30, M31, M37

1. INTRODUCTION

Mobile communication services are getting more pervasive in our daily life and the advanced technological expansion has brought numerous innovations that have facilitated our daily life and communication. The convergence of the telecommunication services eases the processes of various tasks in a uniform way, for example, mobile banking, mobile shopping, and mobile social media sites. This phenomenon has opened up great opportunities to telecommunication services industry, especially the mobile service providers. Hence, it is of utmost importance for mobile service providers to understand the effective strategies which could be employed in attracting new customers, retaining and satisfying the existing customers, and increasing the customer loyalty to the company.

The present study attempts to establish an in-depth understanding of the factors that could influence customer satisfaction (CS) and loyalty from the lens of customers' e-lifestyle, while empirically develops a conceptual model that studies the foundation and formation of CS and loyalty in the mobile services market. Creating the linkages among customers' e-lifestyle, satisfaction, and loyalty are imperative in the context of mobile telecommunication due to the global explosion of usage of handheld electronic communication devices. Due to the massive demand of mobile services, it has the potential to change the paradigm of how the market interacts with the customers. However, the occasions or opportunities for virtual-based telecommunication services to meet and greet their customers, especially in person are scarce. Thus, it presents a real challenge for mobile service providers to interact and create attachments with their customers. These are the reasons why customers' e-lifestyle is essential in understanding CS and loyalty. Moreover, researchers and firms have become highly interested in finding out the sources and consequences of CS and loyalty. Therefore, the research could provide meaningful insight for telecommunication firms to engage and strategize their interactive marketing (Aksoy et al., 2013).

Furthermore, there is a need to examine the relationship between consumers' e-lifestyle, satisfaction, and loyalty towards mobile service providers in order for these companies to keep moving in the same trajectory and speed of perpetual advancement of mobile technology in the global environment (Hassan et al., 2015). The motivation for the present study is that the telecommunication

market in Thailand has not achieved its peak. There are still rooms for improvement for the telecommunication services in Thailand which have to be looked into in order to fulfil the users' needs and subsequently, to survive in the fierce telecommunication industry.

2. LITERATURE REVIEW

2.1. Loyalty

Customer loyalty has been discussed rather extensively in the context of product marketing and the new perspective of loyalty has been found to be significantly correlated with lifestyle and self-identity (Oliver, 2014). A conceptual model developed by Oliver et al. (1997) explained the full spectrum of loyalty grounded by a hierarchy of effects model which included cognitive, affective, conative, and action (repurchase behaviour) dimensions. As the latest and advanced technology emerges, a new terminology, "e-loyalty" is coined which, in general, extends the concept of traditional brand loyalty into online consumer behaviour and lifestyle (Gommans et al., 2001). Therefore, this research considers the factors of e-lifestyle which might significantly influence CS and loyalty.

In the lens of social sciences, behavioural elements of customer loyalty are highly interrelated to the action of repeated purchase in a specific period of time, and repurchase action are significantly due to CS. When a customer is satisfied with a product or service, there is high probability that the satisfied customer will make a repurchase, thereby establishing loyalty to the company or brand. Hence, improving CS level is the key to effectively increase customer loyalty. Firms are encouraged to create a strong bond between the customer and the product/company and satisfy their needs because by doing so, the customer loyalty will be increased.

This study conceptualizes customer loyalty as customers' repurchase intention from the same company and CS as an antecedent of customer loyalty. According to Bayraktar et al. (2012), loyalty can be examined through the consumers' intention to repurchase, toleration with the price, and their willingness to recommend a company's products or services to others. In fact, customer loyalty acts as a root for a company to gain its competitive advantages among the competitors. Hence, customer retention is considered as a fundamental act for mobile service providers (Deng et al., 2010).

2.2. E-lifestyle

Consumers' lifestyle denotes to consumer's attitude, thinking, and sense towards their product purchasing and consumption behaviour (Ahmad et al., 2010). In this 21st century, massive usages of internet and mobile devices have significantly transformed people daily lifestyle (Yu, 2011). Due to this phenomenon, the idea of e-lifestyle has been introduced to strengthen and improve marketing strategies on market segmentation and product/service delivery. Most consumers consider their mobile phones as not only a tool for communication, but also a tool functioning as a multipurpose, technologically advanced device (Castaldi et al., 2011). Hence, the present study conceptualizes e-lifestyle as a set of individual behaviour that reflects psychological concerns and sociological consequences towards internet and electronic devices.

Previous literature was more inclined to examine the linkages between CS and loyalty. However, insufficient attention has been given to the influence social identification antecedents may have on CS and loyalty, for example, customer's lifestyle. The increasing importance of consumer's lifestyle and value in assuming CS and loyalty signifies the needs to investigate individual preferences in order to understand the consumer's lifestyle and behaviour as a user of a communication means. In addition, the understanding of consumers' e-lifestyle is important as it opens up a global marketplace for businesses which are traditionally restricted by geographical areas (Ahmad et al., 2010). Therefore, the present study adapts the e-lifestyle construct by Yu (2011) which is established based on four interrelated components; e-activities, e-opinions, e-interests, and e-values; as dimensions to examine individuals' psychological concerns and sociological consequences of e-lifestyle as a whole. The four elements in e-lifestyle construct were originally established by Wells and Tigert (1971), who first introduced three dimensions of activities, interests, and opinions (AIO) as e-lifestyle and secondly, Mitchell (1983) who grouped value, attitude, and lifestyle (VALS) into e-lifestyle construct. Wells and Tigert (1971) described activities as real, visible behaviour, interests as consistent attention to specific objects, and opinions as responses to occasions. A study on e-lifestyle by Ahmad et al., (2010) described that lifestyle should be measured by looking at consumers' patterns of behaviour which are reflected by the consumers' AIOs. On the other hand, Mitchell's VALS rating scale aims at accessing the associations between the individual values, beliefs, and actions. The use of this rating scale would help to clarify that perceived value directly affects a person's behaviour, where a perceived value is a combination of constructs of a person's beliefs, attitudes, demands, and hopes. In this study, e-activities are classified as consumers' online activities in terms of entertainment, transaction, and social networking. Meanwhile, e-interest includes the consumers' attentiveness about internet, latest technology, and trends. Moreover, e-opinions represent the consumers' view about the continued development of internet services in the perspectives of society, economy, culture, education system, and life well-being. Last but not least, e-values symbolize the consumers' beliefs on how internet could benefit them in terms of job efficiency, networking, knowledge, and convenience in life.

Based on the literature review, the hypothesis is developed as below:

H_1: E-lifestyle has a positive effect on CS.

2.3. CS

CS is defined as customer's experience-based assessment of how far their expectations are fulfilled by the overall functionality of products/services provided by the service provider. It is associated with an individual pursuit or goal that is to be attained from the product/service consumption and it also reinforces desirable end-state of consumption (Oliver, 2014).

There are a lot of studies that focus on the relationship between satisfaction and loyalty, but only a few studies look into the context of mobile telecommunication (Aksoy et al., 2013). A few studies on mobile service industry suggested that CS could positively

influence customer loyalty (Calvo-Porral and Lévy-Mangin, 2015; Hassan et al., 2015). CS is important for a firm because it could potentially enhance the firm's competitive advantages in terms of financial stability, customer retention, word of mouth, and re-purchase intention. Specifically, it is evidenced that the strength of customer relationship is an important indicator of the performance of a firm, and eventually increases the firm's revenue and corporate reputation.

In addition, previous literature also shows that higher CS could establish higher switching barriers (e.g., organizational credibility and relational values) and later, enhance customer loyalty (Rani and Kannan, 2015). In other words, switching barriers would reinforce customer loyalty to a firm with which they feel satisfied and fulfilled. A satisfied customer would tend to recommend the firm to others and would not easily switch to other substitute firms.

Based on the literature review, the hypotheses are developed as below:
H_2: CS has a positive effect on loyalty.
H_3: CS mediates the relationship between e-lifestyle and loyalty.

Figure 1 depicts the research framework of this study which encompasses the four formative-reflective dimensions of e-lifestyle (e-activities, e-interest, e-opinions, and e-values) classified as a second-order construct, CS, and loyalty.

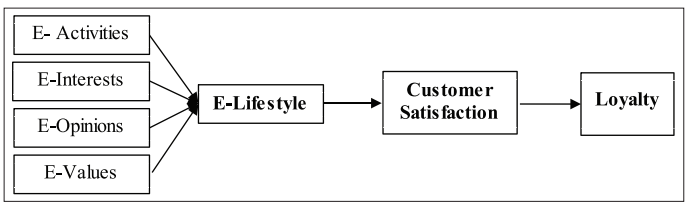
3. MATERIALS AND METHODS

A total 1500 self-administrated questionnaires were distributed to subscribers of major mobile service providers in Thailand (i.e., AIS, DTAC, True Move, and TOT) within some areas in this country. These are the areas that have become the sub-region of continuous development, progress, wealth, peace, and quality of life according to the 5-year IMT-GT Roadmap (ADB, 2008). The covered areas in Thailand included states of Surat Thani, Phuket, and Hatyai. Since we were not able to obtain the list of total population in the suggested areas, a non-probability purposive sampling approach was employed whereby only mobile subscribers of the four particular mobile providers in Thailand were chosen, while the rest were excluded from the data set. SmartPLS 2.0 software (Ringle et al., 2005) was utilized to evaluate the relationships between the constructs of the research model by conducting partial least squares (PLSs) analysis.

3.1. Measurement Scales Development

This survey included four sub-constructs (i.e., e-activities, e-interests, e-opinions, and e-values) underlying consumers' e-lifestyle as the second-order construct. The e-lifestyle instrument adapted in this study was originally developed by Wells and Tigert (1971) and Mitchell (1983) and adapted by Yu (2011) in his seminal work. The items of e-lifestyle's were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The instrument was, hence, adapted based on the Malaysian-response context.

Figure 1: Research framework



Next, the items of CS were measured using a seven-point Likert scale ranging from 1 (not at all satisfied) to 7 (very satisfied), whereas the items of loyalty were measured using a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The measurement items of CS and loyalty were self-developed and some of the items were adapted from Balmer et al. (2001) and Du et al. (2007). Table 1 indicates the items' descriptions adapted from the previous literatures.

4. RESULTS

4.1. Demographic Profiles of Respondents

A total of 420 valid questionnaires were received by the end of data collection period (28% response rate). Table 2 illustrates the demographic profile of 420 respondents in Thailand. The demographic profile includes the gender, age, race, highest education level, monthly salary, monthly mobile subscription, and most recent subscription of the respondents.

The respondents who are female were more than double than that of the number of male respondents with the rate of 68.3% females versus 31.7% males. The age of the respondents in this study varied. About 63% of the respondents are between 17 and 21 years old. Meanwhile, about 23% of the respondents are between 22 and 26 years old and only about 10% of the respondents are >26 years old. This particular demographic information shows that the majority of the respondents in this study could be classified as generation Y (i.e. birth years between 1980s and 2000s).

Majority of the respondents were undergraduates with bachelor degree (74.8%), while only a few respondents with Ph.D. degree (1.4%). Approximately 75% of the respondents were with monthly salary of <THB10,000 and this shows that many of them are students at the university level, whereas the rest of the respondents were with salary above that amount. 24% of the respondents who are mobile subscribers spent <THB250 monthly on mobile subscription. Majority of the respondents (approximately 38%) spent between THB2510 and THB500 on subscription monthly, while only 5.7% spent over THB1000 on mobile subscription. In general, it could be deduced that mobile users in Thailand mostly use AIA/AIS (3G) and DTAC. It shows that there is an observable competition in telecommunication sector between these two mobile operators. AIA/AIS (3G) was number one in terms of subscription among the respondents (43.1%) and DTAC came in second with 34%, while TOT3G had lesser popularity among the respondents as compared to these two mobile operators in Thailand.

4.2. Normality and Common Method Bias

Hair et al. (2014) guidelines of PLS - structural equation modelling (SEM) reporting approach was followed in this paper. PLS-SEM

Table 1: Items' descriptions for constructs

Constructs	Items	Descriptions
E-activities		I frequently use internet to....
	EA1	Play games or listen to online music
	EA2	Shop for products/services
	EA3	Do my banking transactions or finances
	EA4	Share my opinions within network communities (e.g., Facebook, twitter, etc.)
	EA5	Chat with my friends or colleagues/classmates
	EA6	Arrange trips by booking flight/bus tickets, accommodation and etc.
	EA7	Participate in social events
	EA8	Read news or get data
	EA9	Download or watch movie online
E-interests		I use internet because....
	EI1	I am very interested in discovering new things online
	EI2	I would like to stay updated with the latest electronic development
	EI3	I feel happy to use the newest technology
	EI4	I like gaining knowledge through online
	EI5	I like to participate in the network of social communities
	EI6	I like browsing and searching on the web
	EI7	I enjoy online shopping
E-opinions		Continued development of internet services is....
	EO1	Positive for our society
	EO2	Positive to have better understanding about our culture
	EO3	Positive for our education system
	EO4	Positive for our economy
	EO5	Bringing more happiness to our daily life
	EO6	Very important to know the condition of vulnerable societies
E-values		I believe that using internet....
	EV1	Enhances the convenience in my life
	EV2	Improves my job efficiency
	EV3	Expands my circle of friend
	EV4	Enhances interaction among people
	EV5	Decreases face-to-face emotional interaction among people
	EV6	Provides the learning environment that I have benefited from the impact
	EV7	Provides more new knowledge
CS	CS1	I am satisfied with this operator
	CS2	I am satisfied with the quality of services
Loyalty	L1	I am loyal to this mobile network operator
	L2	I am willing to continue my subscription with this mobile network operator
	L3	I highly recommend this mobile network operator to my friends
	L4	I won't switch to the other mobile network operators
	L5	I intend to extend the subscription with this mobile network operator during the next three months

CS: Customer satisfaction

is a non-parametric approach in which the data do not need to be normally distributed. However, skewness and kurtosis have to be examined prior to data analysis in order to evaluate whether or not variable distribution is symmetrical (Hair et al., 2014) and ensure that the data are not far from normal distribution.

The skewness and kurtosis values of most items studied ranged between −1 and +1, which are below the levels suggested for transformation of variables (Ghisseli et al., 1981). Therefore, the non-normality of data is not an issue for the research. Furthermore, common method bias was assessed by conducting Harman's single factor (Podsakoff et al., 2003). Accordingly, single factor accounted for the majority of variance explained (11.26%). This suggests that common method bias is not a major issue in this study.

4.3. Measurement Model

Measurement model results comprised two sections; formative and reflective assessments. There were four formative constructs (e-activities, e-interests, e-opinions, and e-values) in the research. Nevertheless, CS and loyalty were considered as reflective constructs. Figure 2 depicts the measurement model of the study using the PLS analysis.

In order to assess the validity for formative constructs, several steps need to be done sequentially. First, scholars need to assess multicollinearity issue for the formative indicators (Peng and Lai, 2012). High correlation between two formative indicators can have an effect on the results because it boosts the standard error and reduces the ability to demonstrate that the estimated weight is different from zero (Hair et al., 2014). Variance inflation factor (VIF) is a means used to assess the multicollinearity issue (Petter et al., 2007). In the context of PLS-SEM, a VIF value of 5 and higher indicates a potential collinearity problem (Hair et al., 2011). Second, scholars should assess each formative indicator's contribution to the formative construct score which is created by aggregating the formative indicators of a construct using the item weight (Götz et al., 2010). Item weight should be significant, the sign of item weight should be consistent with the underlying theory, and the magnitude of the item weight should also be >0.10 (Andreev et al., 2009).

The validity of the four formative constructs (e-activities, e-interests, e-opinions, and e-values) in the research was assessed using VIF and outer weighting significance results. Table 3 shows that the VIF values of all the four constructs of e-lifestyle were lesser than 5, thus implying that the collinearity issues are not at a critical level for e-lifestyle's second-order construct. The first step for the assessment of the formative constructs was met and the second step to assess formative measurement was to analyse the item weight in formative measurement models for their significance and relevance (Hair et al., 2014). Bootstrapping procedure generating 500 subsamples was implemented to examine whether the outer weight in formative measurement models was significantly different from zero.

Table 2: Demographic profile of respondents (n=420)

Variable	Category	Frequency (%)
Gender	Male	133 (31.7)
	Female	287 (68.3)
Age	17-21	261 (62.1)
	22-26	97 (23.1)
	27-31	20 (4.7)
	32-36	17 (4.1)
	37-41	10 (2.3)
	>41	5 (1)
Highest educational level	High school	50 (11.9)
	Diploma	26 (6.2)
	Degree	314 (74.8)
	Master	24 (5.7)
	PhD	6 (1.4)
Monthly salary	<THB10,000	313 (74.5)
	THB10,000-20,000	80 (19)
	THB20,001-30,000	4 (1)
	THB30,001-40,000	6 (1.4)
	THB40,001-50,000	5 (1.2)
	>THB50,000	6 (1.4)
Monthly subscription	<THB250	100 (23.8)
	THB251-500	159 (37.9)
	THB501-750	75 (17.9)
	THB751-1000	62 (14.8)
	>THB1000	24 (5.7)
Current subscription to mobile operator	AIA/AIS (3G)	181 (43.1)
	DTAC/DTAC Trinet	143 (34.0)
	True Move/True Move-h	63 (15.0)
	TOT3G	14 (3.3)
	Others	3 (0.7)

Age: 9 missing; salary: 6 missing values; subscribers: 16 missing values

Table 4 illustrates the assessment of the formative constructs using the significance values of the item weight. The e-activities had a total of nine formative items. The weight for three items was not significant (i.e. EA7, EI2, and EI6). However, the outer loadings for EI2 and EI6 were more than 0.50. Therefore, they needed to be remained in the data sample set. For the constructs of e-opinions and e-values, all the formative indicators had the item weight value >0.10, hence significant. EA7 was removed from the model because it was neither significant nor had the item loading >0.50.

The next section presents the results for validity and reliability of the reflective measurement models for the first-order constructs.

4.3.1. Reflective measurement results

The assessment of the reflective measurement models in the PLS analysis included composite reliability (CR) and Cronbach's alpha to evaluate internal consistency among items for each construct, item loading, and average extracted variance (AVE). It was basically conducted in order to assess convergent validity. It also involved cross loading and Fornell-Larcker criterion to evaluate discriminant validity among the constructs of the research model of study (Chin, 1998; Hair et al., 2014; Henseler et al., 2009). Item loading and reliability were examined in order to evaluate the properties of the reflective measurement models. Item loading should be 0.708 or higher that a latent variable can explain a substantial part of each indicator's variance (Fornell and Larcker, 1981; Hair et al., 2014). Table 5 depicts the item loading for all the reflective measurement items which were almost >0.708. It was confirmed that the CR and Cronbach's alpha for constructs were satisfactory with values >0.70 (refer Table 5) (Fornell and Larcker, 1981). Hence, the internal consistency among the items for each construct was confirmed.

Table 5 illustrates the AVE values for each construct of the study model. AVE is defined as a mean value of the squared item loading associated with the construct and an AVE value of 0.50 or higher is adequate for each construct to explain more than half of its correspondent items (Hair et al., 2014). As illustrated in Table 5, AVE values for all constructs were >0.50, thus it is satisfactory.

Table 3: Collinearity statistics

E-activities		E-interests		E-opinions		E-values	
Indicator	VIF	Indicator	VIF	Indicator	VIF	Indicator	VIF
EA1	1.439	EI1	1.709	EO1	1.818	EV1	1.545
EA2	1.835	EI2	1.937	EO2	2.126	EV2	1.697
EA3	1.903	EI3	1.882	EO3	1.776	EV3	1.859
EA4	1.345	EI4	1.844	EO4	1.503	EV4	1.845
EA5	1.307	EI5	1.767	EO5	1.533	EV5	1.538
EA6	1.838	EI6	1.504	EO6	1.454	EV6	1.569
EA7	1.960	EI7	1.176			EV7	1.485
EA8	1.413						
EA9	1.584						

VIF: Variance inflation factor

Figure 2: Measurement model

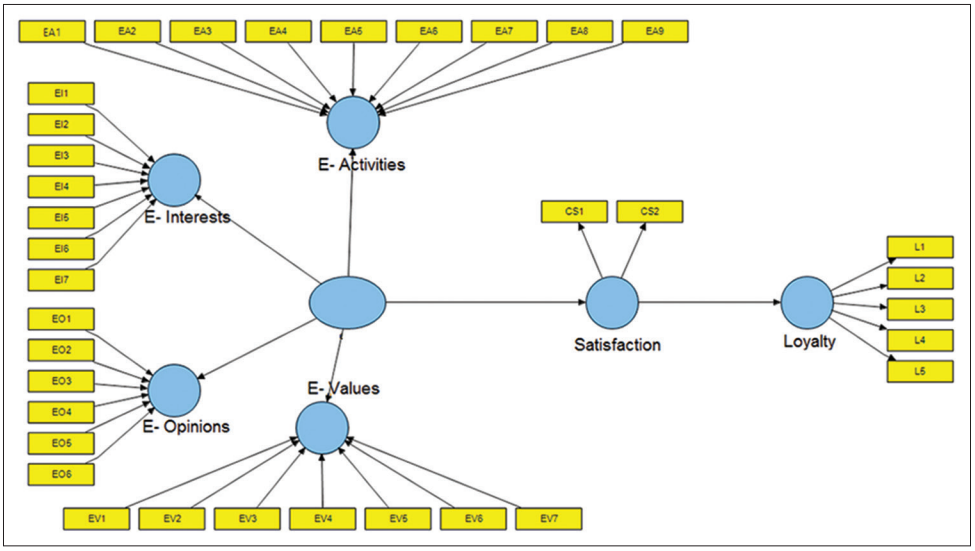


Table 4: Validity results for formative first-order constructs

Formative construct	Formative indicator	Item weight (item loading)	t value
E-activities	EA1	0.174 (0.547)	2.466***
	EA2	0.194 (0.566)	2.197**
	EA3	0.127 (0.410)	1.549*
	EA4	0.253 (0.508)	4.091***
	EA5	0.207 (0.526)	2.927***
	EA6	0.202 (0.485)	2.400***
	EA7	−0.074 (0.463)	0.865^{NS}
	EA8	0.368 (0.719)	5.514***
	EA9	0.257 (0.691)	3.378***
E-interests	EI1	0.358 (0.755)	4.068***
	EI2	0.032 (0.681)	0.468^{NS}
	EI3	0.314 (0.790)	4.156***
	EI4	0.233 (0.765)	3.373***
	EI5	0.213 (0.739)	2.881***
	EI6	0.024 (0.556)	0.375^{NS}
	EI7	0.218 (0.514)	2.640***
E-opinions	EO1	0.343 (0.810)	5.168***
	EO2	0.136 (0.680)	1.776**
	EO3	0.169 (0.735)	2.263**
	EO4	0.160 (0.635)	2.291***
	EO5	0.273 (0.744)	4.167***
	EO6	0.279 (0.720)	4.342***
E-values	EV1	0.212 (0.710)	3.050***
	EV2	0.285 (0.781)	3.809***
	EV3	0.160 (0.671)	2.479***
	EV4	0.105 (0.649)	1.766**
	EV5	0.107 (0.605)	1.480*
	EV6	0.258 (0.702)	3.548***
	EV7	0.278 (0.741)	3.637***

NS: Not significant. *P<0.10, **P<0.05,***P<0.01

In the PLS analysis, two criteria were used to evaluate the discriminant validity (i.e. cross loading and correlation) for the reflective measurement models. First, items should load more strongly on their correspondent constructs than on other constructs. Second, the square root of each construct's AVE should be higher than the level of correlations involving the construct (Chin, 1998). Table 6 illustrates the cross loading for the constructs.

The Fornell-Larcker criterion needs to be evaluated to confirm the discriminant validity of the reflective constructs of the second-order models. Hence, inter-construct correlation statistics were inspected to assess the measurement model. As shown in Table 7, all the constructs shared more variance with their items (AVE) than with the other constructs. In addition, all the correlations were below the cut-off value of 0.80 (Hair et al., 2010). In conclusion, the discriminant validity among the constructs of the study is confirmed where both the cross loading and Fornell-Larcker criterion are met.

In overall, several statistical approaches were conducted to assess the internal reliability, convergent validity, and discriminant validity of the measurement model. Therefore, it is concluded that the model in the present study has satisfactory validity and reliability criteria in order to proceed with the structural model analysis.

4.4. Structural Model Results

Collinearity issues between the constructs need to be inspected prior to the structural model assessment. The assessment of VIF was conducted to detect multicollinearity. According to the PLS's rule of thumb, a VIF value of five and above shows a potential problem of collinearity (Hair et al., 2011). In this study, the VIF values for all the constructs were less than five and this reveals that there is no collinearity issue. Figure 3 illustrates the structural model.

4.4.1. Direct effects testing

The results of the structural model estimate are illustrated in Table 8. The structural model was run using the bootstrap procedure which generated 500 resamples following the recommendation by Hair et al. (2014). As the t-statistics and standard error indicate (refer to Table 8), all path coefficients were significant. Thus, all hypotheses were supported at 99% confidence level.

4.4.2. Mediating effect testing

To test the mediation effect, the procedure of "bootstrapping the indirect effect" by Preacher and Hayes was used (Preacher and Hayes, 2004, 2008). First, the indirect effect of the mediating path

(e-lifestyle > CS > loyalty) was calculated, and the indirect effect was 0.329 (0.411*0.8). Next, the 95% bootstrapped confidence interval was calculated, and the indirect effect of 0.329, 95% boot CI: (LL = 0.238, UL = 0.420) did not straddle a 0 in between. This indicates that there is a mediation effect for the path e-lifestyle > CS > loyalty, and it can be concluded that the mediation effect is statistically significant. Table 9 shows the bootstrapping analysis which indicates that the indirect effect of β = 0.411 is significant at 0.01 level with a t-value of 7.875.

Table 5: Convergent validity and reliability results for constructs

Construct	Item	Loading	CR	Cronbach's alpha	AVE
CS	CS1	0.961	0.962	0.920	0.926
	CS2	0.964			
Loyalty	L1	0.915	0.957	0.944	0.817
	L2	0.930			
	L3	0.916			
	L4	0.878			
	L5	0.881			
E-lifestyle	EA	0.801	0.900	0.853	0.693
	EI	0.822			
	EO	0.853			
	EV	0.851			

CR: Composite reliability, AVE: Average extracted variance, CS: Customer satisfaction

Table 6: Cross loading results

Item	CS	E-lifestyle	Loyalty
CS1	0.961	0.384	0.758
CS2	0.964	0.408	0.781
EA	0.752	0.801	0.258
EI	0.750	0.822	0.291
EO	0.752	0.853	0.365
EV	0.660	0.851	0.270
L1	0.696	0.356	0.915
L2	0.322	0.333	0.930
L3	0.313	0.295	0.916
L4	0.400	0.301	0.878
L5	0.323	0.343	0.881

CS: Customer satisfaction

Table 7: Inter-construct correlations

Variable	1	2	3
CS	0.962		
E-lifestyle	0.412	0.832	
Loyalty	0.800	0.360	0.904

N=420. Diagonals (in bold) represent the square root of the average variance extracted and off-diagonals represent the correlation. CS: Customer satisfaction

In addition to path coefficient results, the complementary evaluation tools for structural model results and the R^2 values of endogenous constructs are illustrated in Table 10. Based on the results, it can be deduced that 17% of the variations in CS can be explained by the constructs of e-lifestyle, while 64% of variations in loyalty can be explained by the construct of CS. Likewise, the changes in the R^2 value that occur when a particular exogenous construct is omitted from the model can be employed to assess whether the omitted construct has a substantive impact on the endogenous constructs (Hair et al., 2013). Accordingly, this measure is conceived as the effect size (f^2) and it can be calculated as:

$$f^2 = \frac{R^2\text{included} - R^2\text{excluded}}{1 - R^2\text{included}}$$

Where R^2 included is the R^2 value when a selected exogenous latent variable is included and R^2 excluded is the R^2 value when a selected exogenous latent variable is excluded from the model. The guidelines for assessing f^2 are the values of 0.02, 0.15, and 0.35 which represent small, medium, and large effects respectively (Cohen, 1988). According to Table 10, the value for the effect size with regard to the impact of e-lifestyle ion CS was 0.204 which was considered as a medium effect. Meanwhile, the effect size of CS on loyalty was large.

The Stone-Geisser's Q^2 for endogenous constructs were 0.154 and 0.521 for CS and loyalty respectively, signifying acceptable predictive relevance because their values were above zero. Regarding the goodness of fit, this approach has been challenged recently because it does not represent a good-of-fit criterion in PLS-SEM due to its inability to make a distinction between a valid model from an invalid model (Henseler et al., 2012). Therefore, it is not advisable for researchers to apply this approach when assessing the overall quality of a model.

5. DISCUSSION AND CONCLUSION

The use of online services available on mobile phones has pervaded every facet of people's lives nowadays, thereby boosting telecommunication services industry. The key success factors in these mobile online businesses are to obtain a better understanding about human patterns and strategize accordingly. In this study, the e-lifestyle instrument was validated and assessed. The findings of this study could provide beneficial information for marketers to

Table 8: Direct effects hypothesis testing

Hypothesis	Path	Path coefficient (beta)	Standard error	Confidence interval	t-value	Decision
H_1	E-lifestyle → CS	0.412	0.046	0.336-0.489	8.921***	Supported
H_2	CS → Loyalty	0.800	0.019	0.763-0.827	41.514***	Supported

***P<0.001, one-tailed. CS: Customer satisfaction

Table 9: Mediating effects hypothesis testing

Hypothesis	Relationship	Standard beta	Standard error	t-value	Decision
H_3	E-lifestyle>CS>loyalty	0.411	0.047	7.875***	Supported

***P<0.001. CS: Customer satisfaction

Figure 3: Structural model results

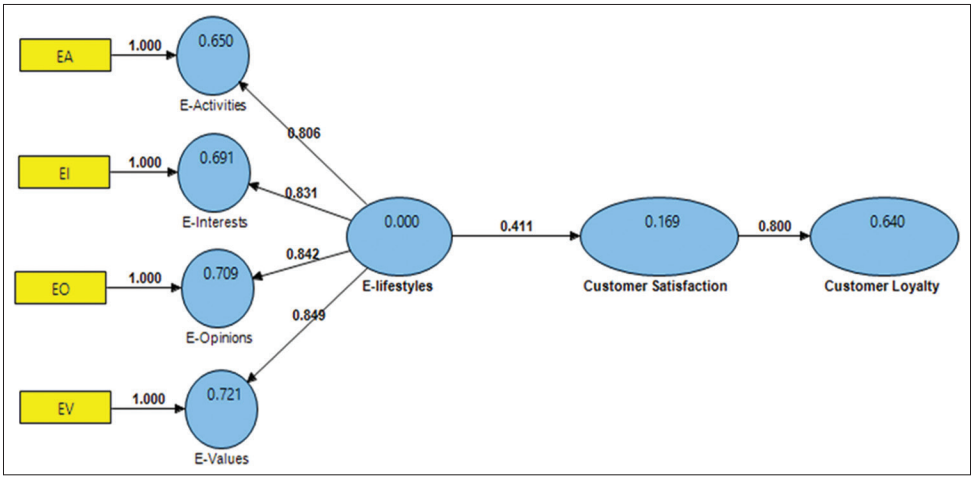


Table 10: R^2, predictive relevance, and effect size

Construct	R^2	Communality (AVE)	Effect size (f^2)	Q^2
E-lifestyle	-	0.693	0.204	-
CS	0.170	0.926	1.777	0.154
Loyalty	0.640	0.817	-	0.521

CS: Customer satisfaction, AVE: Average extracted variance

enhance their companies' marketing strategies and also be used as a foundation to execute a more effective marketing research related to consumer behaviour (Yu, 2011). The empirical results show that the four sub-constructs of e-lifestyle were weighted differently under the shed of consumer e-lifestyle. The four constructs significantly influenced CS and shaped individual e-lifestyle.

Generally, the two hypotheses established in the present study were both supported by the results obtained from the PLS analysis. Specifically, the measurement model results indicate that the first-order constructs of e-lifestyle carry different weight in terms of their influence on CS and loyalty where the e-activities have the lowest item weight, while the e-values have the highest weight. These results demonstrate the significant focus consumers give on values and beliefs when they subscribe to a particular mobile service provider. More specifically, Thai mobile subscribers use internet on their mobile phones mainly to chat with their friends, arrange trips, or download movies. This reflects Thai consumer behaviour towards E-activities that they do in a regular basis. Additionally, Thai consumers are more interested to discover new things, gain knowledge, and participate in social networks through online. Remarkably, they perceive that internet services available on mobile phones are useful and essential for the development of their society, culture, and education system. Finally, Thai consumers believe that using internet on mobile phones has a high impact on improved job efficiency, expansion of circle of friends, and provision of learning environment. Based on the four first-order constructs of consumers' e-lifestyle, the Thai consumers were satisfied with the brand and quality of services provided by the four major mobile firms which were AIS, DTAC, True Move, and TOT. Consistent with the previous literature, the present study reveals that satisfaction has the strongest relationship with loyalty.

From the marketing perspectives, the weight and significance of e-activities, with respect to using internet on mobile phones to do normal activities, were more than that of the other constructs (e-interests, e-opinions, and e-values). The results of this study suggest that the more service providers fulfil their consumers' daily needs, the higher the opportunity is for them to establish CS. This relies on how well online services designed for mobile phones can largely influence the need of consumers' daily life and work.

In addition, this research contributes to the body of knowledge through the examination of various influential factors of CS and loyalty in mobile telecommunication services industry, which is now becoming an increasingly important topic of discussion and research. As the study reveals the significance of consumers' e-lifestyle in influencing their satisfaction and loyalty, it is suggested that mobile service providers should continue improving personalized services to their customers, enhancing key functionalities of services, and developing service innovations. This is because the core factor which influences CS and loyalty is the ability of a firm to fulfil their customers' needs and wants (Al-Debei and Al-Lozi, 2014). Future research could also include cultural factors into the framework because cultural diversity is also an important aspect in determining CS and loyalty via different consumers' lifestyles (Kassim and Asiah Abdullah, 2010).

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