Demographic Factors' Moderating Effects on University Students' Brand Loyalty towards Mobile Service Operators in Eastern Region of Thailand

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ABSTRACT

Telecommunication industry plays a significant role in any country's economic sector and will often face fierce competition in mobile service market. In order for business to survive and sustain, mobile service providers must be creative and adaptable so as to avoid losing customers to competitors. Understanding essential factors that influence customer's behavior will assist mobile service operators establish brand loyalty and achieve long-term profitability. This research study aims to investigate and provide the imperative information regarding the contributing factors of university students' brand loyalty towards mobile service and the moderating effects of university students' demographic characteristics on such relationship in the eastern region of Thailand. The population for this study is the currently enrolled students in selected Thai universities during this research study. The sample size in this study is 698 students who are studying in three selected universities from Chonburi province in the eastern region of Thailand. Research participants were chosen by using purposive sampling method, and research instrument applied in data collection is questionnaire with reliability value (Cronbach's Alpha) equals to 0.914. Factor analysis, Structural equation modeling (SEM) and multi-group SEM are employed to investigate causal relationship and moderating effects. Research results show that four factors: (1) perceived value, (2) corporate image, (3) perceived quality, and (4) perceived inconvenience are positively correlated with university students' brand loyalty towards mobile service operators in Thailand. In terms of the moderating effect, four proposed demographic variables (age, income, residency and number of children) are found

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significant. Therefore, from findings of this research, mobile service providers in Thailand are advised to efficiently optimize corporate resources into developing service packages with better quality and value, as well as improving corporate's public image in order to enhance university students' brand loyalty. The confirmed influencing demographic moderators suggest mobile service operators should economically allocate financial resource on building long-term student customer's loyalty of specific demographic groups instead of all student groups.

Keywords: Mobile Service Brand Loyalty, Thai University Students, Demographics' Characteristic, Moderating Effects, Chonburi province.

Background and Significance of the Research Problem

Telecommunication technology serves a significant role not only in one country's social advancement by resolving the terrestrial distance challenges but also in its economic development by refining traditional communication technology that is time consuming and costly. In recent years, telecommunication industry has been advancing at an unprecedented rapid rate and receiving much attention worldwide. In Thailand, it is reported that the communication section grew by 5.8% in the first quarter of 2021, reaching 4.6% of its total Gross Domestic Product (NESDC, 2021), comparing to the 3.9% of GDP in year 2018 (Ninkitsaranont, 2019). The Growth in the communications sector contributed predominately by the telecommunication industry which experienced a rise from 6.9% to 7.5% during Quarter 1 in 2021 (NESDC, 2021). At present, Thai mobile service market has reached 119.17 million subscriptions (Rasmussen, 2021), with 186% penetration rate owing to multiple SIM ownership (Dhasan et al., 2021). These significant growth and changes have subsequently lead to fierce competition in Thai mobile service markets.

Thai mobile service industry can be characterized as a traditionally defined oligopolistic market that is predominately controlled by three major business corporations, with Advanced Info Service plc (AIS) holding the largest market share of 44.29%, trailed by True Move H company's 32.32%, and Total Access Communication Public Company Limited (DTAC) holding 19.76% in 2021. The remaining 3.63% market share was distributed between the other small players that are National Telecom (NT) Plc. and the Mobile Virtual Network Operators (MVNOs). As technological advancement gradually narrow quality gap of mobile service offered by different network providers, the costs associated with switching mobile service providers has also been reported reducing by 8.5% (Pacharasut, 2017). Consequently, all service provides in

Thai mobile service market are facing the issue of maintaining customer loyalty, AIS, for instance, reported an astonishing 3.7% monthly blended churn rate in the first quarter in 2020 (AIS, 2021).

Considering research findings that have shown that an average 5% customer churn rate of an enterprise will result in estimated profit loss by 25%–85% (Jones & Sasser, 1995), thus, from managerial perspective, in an increasingly competitive industry as that of telecommunication with high subscriber churn rate, it is vital for mobile service operators to build customer loyalty. Loyal customers requires less marketing communication related cost and they can attract more new customers by herd mentality in mobile service market (Zhao et al., 2021). In the marketing literature, ample research studies were conducted to examine customer brand loyalty and its underlying factors in both international mobile service industry (Qayyum et al., 2013; Redda & Surujlal, 2019; Ahn, 2020), and Thai domestics mobile industry (Siti et al., 2017; Pumim et al., 2017; Dhasan et al., 2021). Although conclusions and findings from different researches vary regarding the impact of various contributing factors on customer loyalty, six antecedents namely, customer satisfaction, perceived quality, perceived value, corporate image, switching cost, and trust have been discussed extensively and receive most confirmation (Qayyum et al, 2013; Pumim et al., 2017; Redda & Surujlal, 2019; Dhasan et al., 2021).

In Thailand, nevertheless, the scope of current studies regarding customer brand loyalty in mobile service market primarily limited to general population, sub-demographic groups such as university students were yet not adequately addressed and investigated. In 2020, total number of students enrolled in tertiary Thai education institutes was reported as 4.9 million (UNESCO, 2020), which accounted for 6.9% of Thai population. University student, a subset of Generation Y (millennials), is equivalent to 30 percent of population in Thailand and represent an exciting customer group for businesses in technology and telecommunication (Kittikrairat, 2016). It is concluded that millennials group presents unique individual traits such as tech-savvy, highly social and private apprehensive, information focused, highly selective and financially knowledgeable (Zhu et al., 2020). Panjakajornsak (2017) also reported that, in Thailand, 83% of millennials were online to socialize with each other and mobile devices is their preferred method, thus, university student is a customer group with unique demographic features that deserves the mobile service providers' attention and effort of study.

Therefore, considering the above mentioned contextual background, the purpose of this research paper was to examine the relationships of the antecedents of university students' brand loyalty in the Thai mobile service market and an inclusive proposed model on such relationship will be tested empirically to investigate its validity and reliability. Furthermore, this

research aims to explore the impact of Thai university students' demographic traits on the correlation between brand loyalty and its antecedents.

Research Objectives

1. To investigate impact of various antecedents identified in recent marketing literature on Thai university students' loyalty towards mobile service providers.

2. To investigate moderating impact of demographic traits of Thai university students on their brand loyalty towards mobile service.

Scope of Research

Brand loyalty is characterized as the likelihood of consumers to switch to others brand when there is a change in price or product features and it is described as deeply held commitment repetitively purchase product or service, irrespective of any marketing strategies or other situational factors that might influence behavior (Keller & Lehmann, 2003). Brand loyalty can be discussed form three outlooks, behavioral, attitudinal, and choice perspectives. Behavioral loyalty pertains to the quantity of repurchases for a certain brand, attitudinal perspective relates to consumer fondness and dispositions towards a brand, and perspective emphasizes on the reasons of certain purchases or choices are made. By examining past literature, attitudinal approach to the notion of brand loyalty is advocated by various authors (Aydin & Ozer, 2005; Qayyum et al., 2013; Lu & Pitchayadejanant, 2017) as it underlines perceptive and affective loyalty characteristics and distinguishes true from false loyalty, therefore, in this research, attitudinal approach to the notion of customer loyalty is adopted. Previous academic papers that studying mobile service industry also proposed six underlying factors that directly affect brand loyalty (Qayyum et al., 2013; Redda & Surujlal, 2019; Ahn, 2020), which will be discussed in details in this research.

Customer satisfaction is explained by Thaichon and Quach (2016) reflection of a state of contentment, fulfilment and pleasure consumers experienced from brand's products or services through purchasing and utilizing the brand. Therefore, as research advocated that customer satisfaction is considered one of the key factors to brand loyalty in marketing literature as it indicates if the perceived quality of product or service meets the anticipated expectations. In the empirical research about SMEs, Terblanche (2015) further support the critical effect of customer satisfaction on the survival of small and medium sized business by examining the satisfaction of customers and their intention to disseminate positive word-of-mouth information.

In similar study conducted by Ndubisi (2012), results revealed the similar relationship between level of customer satisfaction and cash flows, a greater market share and increased profitability. In mobile phone industries, customer satisfaction is also likely to have a positive impact on loyalty and it has been empirically suggested by many other previous studies (Aydin & Ozer, 2005).

Perceived quality is defined by Kataria and Saini (2020) as the consumers' evaluation of the overall superiority of the brand compared with that of other competitive choices. By enhancing service quality, companies can motivate consumer to re-purchase, be less sensitive to price fluctuation, and promote services to potential customers, which eventually leads to customer loyalty (Aydin & Ozer 2005). Perceived service quality measurement have been examined by replete empirical studies, and it can be categorized into five dimensions including: tangibility, reliability, responsiveness, assurance and empathy by using two prevalent methods are SERVQUAL (performance perceptions minus expectations) approach, and SERVPERF (performance-only) based approach. Regardless of superiority and drawbacks of both approaches that was discussed in literature (Lu & Pitchayadejanant, 2017), in this research, perceived service quality was measured by SERVPERF approach as suggested by similar researches (Qayyum et al., 2013; Kaur & Soch, 2013).

Perceived value is described as consumers' appraisal of rewards acquired from the purchase based on the perception of benefits obtained and sacrifices incurred (Keller & Lehmann, 2003). Perceived value is basis for constructing all marketing strategies so that it is crucial in analyzing consumer behavior. It was advocated that customer perceived value is possible to influence their brand loyalty as perceived value is a superordinate objective, while brand loyalty is a subordinate aim. Therefore, consumer's value paradigm regulates their behavioral intents of loyalty till such relational exchange can deliver higher value than other competitive alternatives can. As also suggested by numerous empirical studies perception of value could motivate consumer to repetitively purchase products or services, thus, positively related to brand loyalty (Pumim et al., 2017; Redda & Surujlal, 2019).

In marketing literature, researchers have suggested evidences to the support the role of trust in marketing relationships (Abdulrazak & Gbadamosi, 2017). Trust is consisted of essential elements – partners' credibility and benevolence (Wang, 2007). Credibility is the belief that partners in transactions will perform the task involved with efficiency and reliability, while benevolence explains the belief that the actions taken by one party in the exchange would be in the best interest of the other (Wang, 2007). In service industry, researchers advocate that trust

is essential for a successful long-term relationship between customer and service provider (Pumim et al., 2017). The result of this strong bonding between two parties in the transaction will lead to the promotion of repetitive purchase and high degree brand loyalty. In marketing research, the positive relationship between trust and attitudinal loyalty have been advocated by replete evidences (Qayyum et al., 2013; Pumim et al., 2017).

Switching costs is described by Kaur & Soch (2013) as the key element influencing consumers' retaining decision, and it is consumers' view on both monetary and non-monetary costs incurred when changing from one brand to another. Despite of declining monetary cost, non-monetary expenses incurred for consumers when switching service provider is substantial, such as notifying contacts about new phone numbers, quality uncertainties, and unfamiliarity with new brands' prices and packages that offered. Some researchers also argue that consumers the potential high switching costs could lead to long-term brand loyalty (Qayyum et al., 2013; Jani, 2014). In marketing literature, the positive causal relationship between high switching cost and attitudinal loyalty have been advocated by researchers in both telecommunications industry and other business fields (Aydin & Ozer, 2005; Kaur & Soch, 2013; Zhao et al, 2021; Dhasan et al., 2021).

Corporate image is stated as the general perception held by consumers towards a firm. Some researchers suggested that attitudes are correlated functionally to interactive objectives and can be used to predict conduct, naturally, corporate image is an attitude and would influence behavioral purposes, for instance, customer loyalty. In their research study, Ene and Özkaya (2014) investigated and concluded that corporate image has a positive impact on customer satisfaction, which subsequently influence brand loyalty, which were also supported by similar empirical studies.

In decades, demographic factors of customers were extensively tested by researchers for their influence on satisfactions and brand loyalty in various industries (Qayyum et al., 2013; Redda & Surujlal, 2019; Ahn, 2020), but their effects were not conclusive. While some researcher (Ahn, 2020) suggested that age significantly affect customers' brand loyalty, others found opposite results in similar studies (Qayyum et al., 2013). Demographic factors employed this study include gender, education status, income level, marital status, residency, and number of children, which were previously investigated in literature and suggested have influence on brand loyalty.

The conceptual framework of this research in Figure 1 was adopted from Qayyum et al. (2013) and consists of six components as independent variables. Seven factors that describe

Thai university students' demographic information are the moderating variables, and student customer's brand loyalty is the dependent variable. As each demographic factor may impact the correlation between consumer loyalty and its influencing variables, therefore total 42 hypotheses will be tested in this research.
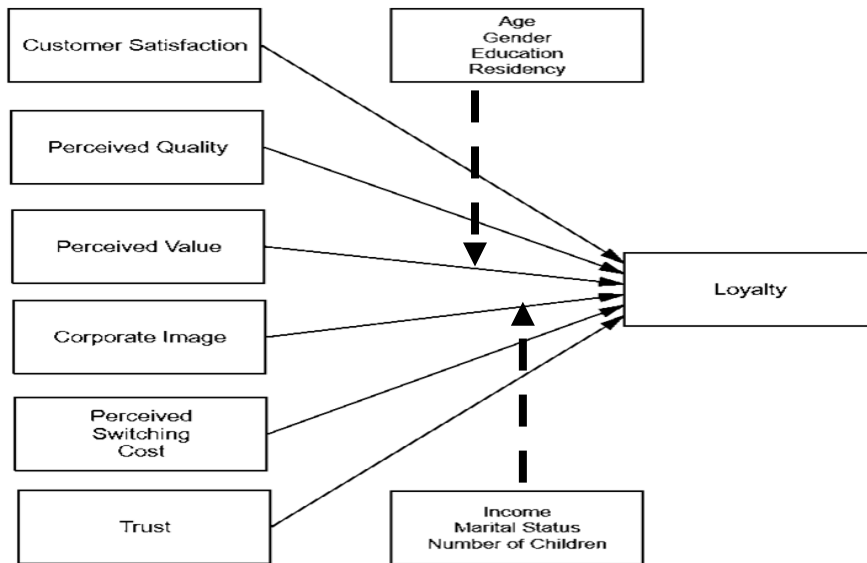

Figure 1 Conceptual Framework

The target population in this research was Thai university students currently enrolled at this three local universities (Burapha University, Kasetsart University Sriracha Campus, and Sripatum Chonburi Campus) in Chonburi province that resides in the eastern region of Thailand. Total number of students was estimated around 77,000 at the time of data collection for this research study during July to October in 2020. As suggested by previous studies (Hair et al., 2006), the minimum sample size of 200 is needed for required statistical analysis. Thus, a total of 698 students from three local university were recruited in this study using non-probability purposive sampling method, which allows researchers to easily access to the required sample data.

Research Methodology

In this research, scales and items employed in questionnaire aiming to measure each variable in the conceptual framework were adopted from past literature. The three itemed brand loyalty scale were adapted from Narayandas (1996); Customer satisfaction was analyzed by using four dimensional scale created by Cronin et al. (2000); Qayyum et al., (2013) provided the 4 facet scales for measuring perceived service quality and perceived value; The 4 itemed

scale proposed by Aydin and Ozer (2005) was used to measure trust; the scales to measure perceived switching costs and corporate image were also adopted from Aydin and Ozer (2005). The questionnaire employed in this research includes 32 items that aimed to investigate the proposed model and 7 questions are used to collect customer demographics information. A five-point Likert scale survey rating matrix was also adopted to measure the sample participants' level of the agreement.

A paper-based survey was employed to collect data in Chonburi Province. Overall, 1,000 questionnaires were evenly dispersed among all three Universities and 717 were recollected. Among returned questionnaires, 19 unusable questionnaires were identified and excluded during data cleaning process, thus leads to a total sample size of 698 participants.

The collected data was then screened and investigated for missing value with statistical analysis program SPSS. The employed data analysis techniques in this research consist of descriptive statistics, confirmatory factor analysis, structural equation modeling (SEM) for testing proposed conceptual framework, and multi-group analysis of moderating effect.

Results

According to Table 1, majority of sample participant in this study are female (61.7%) aged between 18-22 years old (87.8%) who were enrolled in undergraduate program (95.4%). Most of the respondents come from Chonburi province (33.8%) and with monthly income level less than 9,000 Baht. The information also shows that majority participants are single (98.3%) and with no children (97.1%).

Table 1 Respondents' Demographics Information (n = 698)

Factor	Groups	Number	Percentage
Gender	Male	267	38.30
	Female	431	61.70
Age	<18	6	0.90
	18-22	613	87.80
	23-27	56	8.00
	>27	23	3.30
Education Status	Undergraduate	666	95.40
	Graduate	32	4.60

Table 1 (Continued)

Factor	Groups	Number	Percentage
Residence	Chonburi	236	33.80
	Bangkok	100	14.30
	Rayong	63	9.00
	Other	299	42.80
Income Level	0-9,000 Baht	368	52.70
	9,000-15,000 Baht	282	40.40
	15,000-20,000 Baht	48	6.90
Marital Status	Single	686	98.30
	Married	12	1.70
Number Of Children	No Children	678	97.10
	Have Children	20	2.90

According to Table 2, all 32 items in questionnaire were analyzed for their suitability of each extracted factor by using factor analysis techniques. Following the recommended threshold for factor loading of 0.5 (Hair et al., 2006), twenty of the original proposed 32 items were kept and categorized into 5 factors, which have been named as perceived value (4 items), corporate image (5 items), perceived quality (4 items), perceived inconvenience (3 items), and brand loyalty (4 items) with reliability score of 0.797, 0.791, 0.742, 0.666, and 0.772, respectively. Items with factor loadings that do not pass the threshold criteria were deleted for the subsequent analyses. Therefore, based on the model fit with the empirical data that shown in the Path diagram in Figure 2, the proposed research model is modified as shown in Figure 3.

Table 2 Extracted Factors

Factor	Item	Standardized Loading	Construct Reliability
Perceived Value	PV1	0.699	0.797
	PV2	0.732	
	PV3	0.690	
	PV4	0.649	

Table 2 (Continued)

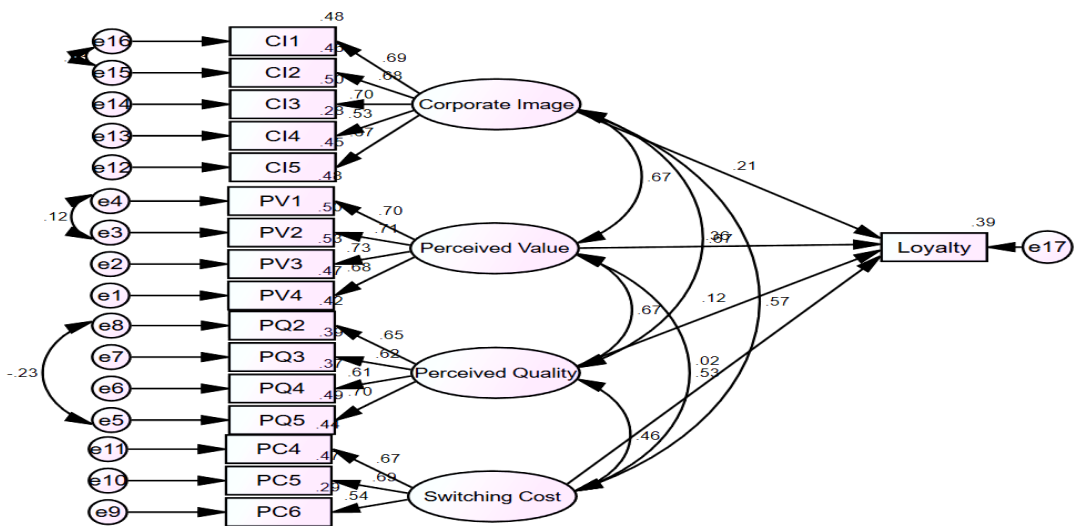| Factor	Item	Standardized Loading	Construct Reliability
Corporate Image	CI 1	0.516	0.791
	CI 2	0.611	
	CI 3	0.710	
	CI 4	0.668	
	CI 5	0.630	
Perceived Quality	PQ1	0.516	0.742
	PQ2	0.682	
	PQ3	0.730	
	PQ4	0.633	
Perceived Inconvenience	PI 1	0.749	0.666
	PI 2	0.771	
	PI 3	0.531	
Brand Loyalty	B1	0.692	0.772
	B2	0.762	
	B3	0.682	
	B4	0.643	

Figure 2 Path diagram for the model fit with standardized estimate results shown.
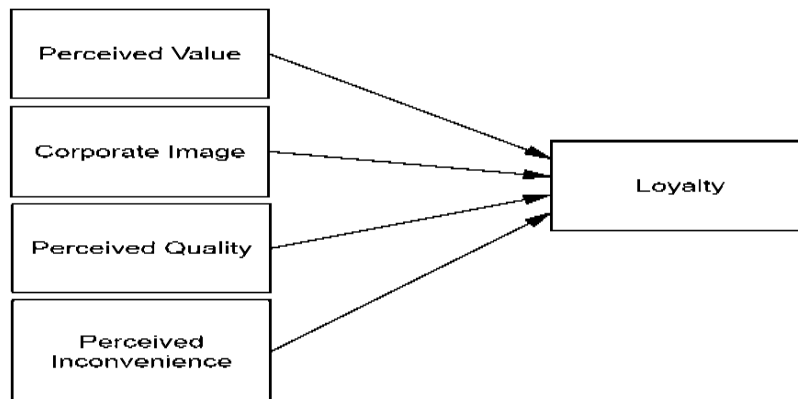
Figure 3 Modified research model

It is shown in Table 3 that the recruited Thai university students' average rating of perceived value has the relatively lowest score (3.5458), which indicated the need for improvement in this section for mobile service operators. In terms of Perceived service Quality, student customers appear to be overall satisfied with their mobile service providers, with the highest rating score of 3.6465. In general, sampled Thai university students' rating on all factors are above 3.5. Correlation coefficients between independent variables shown in Table 3 are all below 0.8, which indicates that there is no potential multicollinearity problem for the modified conceptual framework in this research.

Table 3 Correlations between factors

	Mean	Perceived Value	Corporate Image	Perceived Quality	Perceived Inconvenience	Loyalty
Perceived Value	3.5458	1				
Corporate Image	3.5819	0.530	1			
Perceived Quality	3.6465	0.515	0.513	1		
Perceived Inconvenience	3.5630	0.398	0.424	0.329	1	
Loyalty	3.5852	0.520	0.473	0.438	0.337	1

Results of the structural equation model analysis are displayed in Table 4, which indicate that chi-square statistic of the model is significant (χ^2 = 226.996, with p < 0.000) and the ratio of chi-square to degrees of freedom (χ^2/df =2.121, with p < 0.000) is also below the

threshold value of 3 (Kline, 2005) that suggests good fit of the modified model in this research. The other fit indices include comparative fit index (CFI) = 0.967, Goodness-of-Fit Index (GFI) = 0.963; normed fit index (NFI) = 0.941; Tucker-Lewis index (TLI) 0.959; and root mean square error of approximation (RMSEA) = 0.040. The values of all above mentioned criterion index are within acceptable range, which concludes that good fit of the modified research model.

Table 4 Analysis of Direct Effects

			Regression Coefficients	S.E.	C.R.	P
Loyalty	<---	Perceived Value	0.443	0.080	5.500	***
Loyalty	<---	Corporate Image	0.260	0.082	3.166	0.002
Loyalty	<---	Perceived Quality	0.125	0.066	1.881	0.060
Loyalty	<---	Perceived Inconvenience	0.034	0.073	0.470	0.638

Model fit indices

χ^2 = 226.996 (P = 0.00), df = 107, χ^2/df = 2.121, CFI = 0.967, GFI = 0.963, NFI = 0.941, TLI = 0.959, RMSEA = 0.040.

Note: *** p<0.001

The direct effects analysis in Table 4 also demonstrates that three factors (perceived value, corporate image, and perceived service quality) correlate with the recruited Thai university students' brand loyalty positively at p < 0.1 level, with perceived value having the strongest correlation with brand loyalty (.443) and perceived quality having the weakest regression weight (.125). In contrary, factor named perceived inconvenience does not have a significant effect on university students' mobile service brand loyalty. Overall, the four factors in model explains 58.9 percent of the variance in Thai university students' brand loyalty of mobile service, which concludes the first object of research that four factors from the six previously identified antecedents could possibly impact sampled Thai university students' brand loyalty towards mobile service in the experimental region in Thailand.

With regards to the analysis of moderating effects of sampled Thai university students' demographic characteristics on the proposed model in this research, firstly, marital status variable was deleted from this analysis due to the inadequate amount of sample participants with 'married' status. Secondly, another two demographic variables named gender and

education are found to have no significant moderating effects on the relationships between Thai university students' brand loyalty and the four proposed independent variables. Lastly, the four remaining demographic variables in this research have been found to have various degrees of moderating effects, which are illustrated in Table 5.

University students' age and income level are found to have the strongest moderating effect as they each influencing two of the four relationships in the proposed research model at p-value < 0.05 level and p-value < 0.10, respectively. In particular, both of these demographic variables moderate on the relationship between perceived quality and customer loyalty. In contrary, variables named residency and number of children are found to have relatively weak moderating effect as they each moderate one single relationship at p-value < 0.10. Therefore, these findings conclude the second object of this research study that demographic traits do influence sampled Thai university students' brand loyalty and its antecedents in Chonburi province of Thailand.

Table 5 Multi-group Analysis of Moderating Effects

Age			18 - 22		23 - 27		Z-Score
			Estimate	P	Estimate	P	
Loyalty	<---	Corporate Image	0.294	0.001	-0.300	0.257	-2.121**
Loyalty	<---	Perceived Quality	0.091	0.218	0.653	0.011	2.095**
Income			9k -15k		More Than 15k		Z-Score
			Estimate	P	Estimate	P	
Loyalty	<---	Perceived Value	0.538	0.000	-0.099	0.764	-1.834*
Loyalty	<---	Perceived Quality	-0.004	0.963	0.551	0.048	1.896*
Residency			Chonburi		Others		Z-Score
			Estimate	P	Estimate	P	
Loyalty	<---	Perceived Value	0.299	0.016	0.624	0.000	1.787*
Number of children			Have Children		No Children		Z-Score
			Estimate	P	Estimate	P	
Loyalty	<---	Perceived Value	0.134	0.419	0.438	0.000	1.66*

Notes: *** p-value < 0.01; ** p-value < 0.05; * p-value < 0.10

Conclusion and Discussion

The findings show that only four factors (perceived value, corporate image, perceived service quality, and perceived inconvenience) are found to have influencing effect on sampled Thai university students' brand loyalty. It is also in line with findings from this research where university students placed perceived service value and quality as priorities for their brand loyalty, and these results are consistent with studies conducted by other researchers (Pumim et al., 2017; Dhasan et al., 2021). The conclusion that perceived value is the most significant factor in retaining university students' loyalty justify the immediate necessities for mobile service operators to design suitable service and pricing package that specifically accommodates the financial needs of university students.

Furthermore, as concluded by some researchers (Aydin & Ozer, 2005; Qayyum et al., 2013, Pumim et al., 2017), corporate image also significantly influence university students' brand loyalty and preference amid competition. This can be justified as technical variability of mobile service products are also indifferent if not identical, thus, corporate image which includes social responsibility, public relationship management, innovative reputation and so on, will serve as an important factor for customers to differentiate among different mobile service companies. In addition, perceived inconvenience factor is also found correlated to customer loyalty, nevertheless, research results showed that sampled Thai university students concerned more about product functionalities and time opportunity cost rather than monetary cost of switching mobile service providers. This is understandable as technology advancing and competition increasing in mobile service market, service providers are gradually reducing the switching cost in order to attract customers from competitors (Pacharasut, 2017).

Customer satisfaction and trust, however, did not show significant correlation with brand loyalty, which is inconsistent with other similar studies in marketing literature (Qayyum et al., 2013; Pumim et al., 2017, Thakur, 2019). The possible underlying causes to such contrary result could be reflected through university students' unique traits (Zhu et al., 2020). They differentiate from general public customers because they are comparatively more tech-savvy, information focused and knowledgeable. Thus, when choosing mobile service, university students tend to search and compare available information regarding technical details and potential alternatives, which enable them to be more knowledgeable and cynical about the service the received.

This study has confirmed that four demographic factors of Thai university students' (age, income, residency, and number of children) have various levels of impact on the relationship between loyalty and its antecedents. Findings of the moderating effects showed sampled Thai

university students' age significantly affect their service loyalty and contributing factors that are corporate image and perceived quality, whose effects on customer loyalty are both stronger for students aged between 23-27 than 18-22 years old. Also, in accordance with studies conducted by Qayyum et al. (2013) and Ahn (2020), income are found having moderating effect on brand loyalty and perceived value, whose effects on customer loyalty is much stronger for students in low-income group than high-income group. Furthermore, results from this research confirm that residency and number of children are another two moderating factor that affect customer loyalty and perceived value.

These findings offer policy implications for Thai mobile network companies to guide improvement of perceived service value and quality, corporate image and perceived inconvenience to university student mobile service users in Chonburi province, Thailand. Understanding market change and target customers' characteristics is crucial to mobile service providers in forming effective business tactics that focusing on the unique customer groups such as university students.

Suggestions

This research contributes to the existing literature in marketing research with respect to university student customers' mobile service brand loyalty and antecedents in eastern region of Thailand. As this study was primarily conducted in one province in Thailand and the sample respondents are all domestically recruited, therefore the results and findings from this research are more applicable in a rather limited geographical and cultural context. Further studies can be extended to a larger national or regional scope in order to generalize the research findings. With regards to the research design, the measurements of some of the contributing factors to customer loyalty such as customer satisfaction appear to be ineffective, thus it can be modified in similar study in the future. In addition, Future research can also incorporate factors outside economic influences that possibly impact mobile service loyalty such as political, cultural, and environmental factors, which will assist in generating more robust frameworks and models that can be applied in other service industries.

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