RESEARCH ARTICLE

Thailand's Low-Cost Carrier Airline Industry: Is the Services Marketing Mix the *Elixir* for Economic Growth and Prosperity?

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Abstract: In 2017, low-cost carrier (LCC) airlines consistently grew at a faster pace compared to the world's average growth. In 2017, LCCs carried an estimated 1.2 billion passengers and accounted for approximately 30% of the world's total scheduled passengers. In Southeast Asia, passenger traffic grew by approximately 10% in 2017, where six of the region's 10 countries recorded double-digit growth. Southeast Asian airlines now have 1,600 airplanes on order, in addition to an active fleet of close to 2,000 airplanes, with LCCs currently accounting for approximately 70% of Thailand's domestic seat capacity. Competition, however, amongst the LCCs has become fierce, with fare reductions being a common tactic to fill seats. Therefore, the researchers sought out to determine which aspects play the greatest roles in an LCC's competitiveness, and used multi-stage random sampling to obtain 320 passenger respondents' opinions who were departing on either Thai AirAsia, Thai Lion Air, Thai Smile, or Nok Air from one of Bangkok's two main airports. Results determined that the service marketing mix of promotion, place, price, and services play the most important role in LCC competitiveness.

Keywords: 7Ps, competitiveness, competitive advantage, service quality, Thailand 4.0

Low-cost carriers (LCCs) have proliferated in the Southeast Asian nations since the 1997 global financial crisis, which was partially responsible for the introduction of the region's first LCC, Malaysia's AirAsia in 2001 (AirAsia, 2011; Tham, 2008). In Thailand, from 2011 to 2017, the total domestic aviation market more than doubled driven by a combination of economic growth, an expanding middle class and rapid LCC expansion from approximately 11 million passenger seats to 33 million seats (Centre for Aviation, 2018b).

A second element which has also contributed to the rise of LCCs in the region has been the deregulation and the implementation of the ASEAN Single Aviation Market (ASAM)/ASEAN Open Sky Agreement, which has changed the competitive nature of the aviation industry (Baker, 2013, 2014; Kim & Lee, 2011), especially as it has been applied to LCCs (Damuri & Anas, 2005).

Within these agreements, it is stated that any ASEAN member state airline can operate both passenger and cargo scheduled services between its home country

and another member country's international airport (Grosso & Shepherd, 2010). These agreements also allow for the continuation of the flight to yet a third member state, without having to return home before doing so (Nothhaw, Tungkunanan, & Manon, 2016). This is consistent with Ishutkina and Hansman (2009) who determined that the creation of LCCs often follows changes in the aviation regulatory framework, and results in demand stimulation effect and significant changes in the traffic growth rates primarily due to lower fares. Furthermore, the introduction of domestic or international LCC services results in dramatic changes in the air passenger growth rates, both in developed and developing economies (Centre for Aviation, 2018b).

As previously mentioned, the Asian economic crisis of 1997 began when Thailand devalued its currency (Corera, 1998), resulting in the decline of gross domestic products (GDP) across the region, along with the suppression of air transportation demand (Ishutkina & Hansman, 2009). As a result, entrepreneurs saw an opportunity. In February 2004, Thai AirAsia, the first Thai LCC, was established (AirAsia, 2011). AirAsia stated that during this period, low-cost air travel was virtually unknown in Thailand, with air travel only for the elite who could afford the premium airfares.

Subsequently, over the next four years, the Thai domestic market tripled from four million to more than 12 million passengers, with LCCs accounting for 8.5 million passengers. By 2008, Singapore's Tiger Airways and Jetstar Asia, Thailand's Nok Air, and One Two Go, and Indonesia's Awair and Lion Air were common names for budget travelers throughout the region (Tham, 2008). Similarly, low-cost carrier development helped stimulate domestic passenger growth in other global economies during this period, such as Turkey, South Africa, and Indonesia. However, in China, extensive government regulation and fuel price/purchase controls in the past have been a major obstacle to the growth of LCCs (Ishutkina & Hansman, 2009).

From 2009–2013, ASEAN airlines experienced double-digit growth. By the end of 2017, there were 20 ASEAN LCCs with a fleet of 690 aircrafts, which was 50% in just three years (Camus, 2017; Centre for Aviation, 2016, 2017, 2018a, 2018b). Furthermore, in 2017, Thailand's LCC fleet had also expanded to 136 aircraft spread amongst six carriers, with Thai AirAsia leading the pack, increasing its fleet from 28 to 59 aircraft in just five years (Centre for Aviation, 2018b). Additionally, international LCC seats have nearly tripled from five million seats in 2012 to 13.5
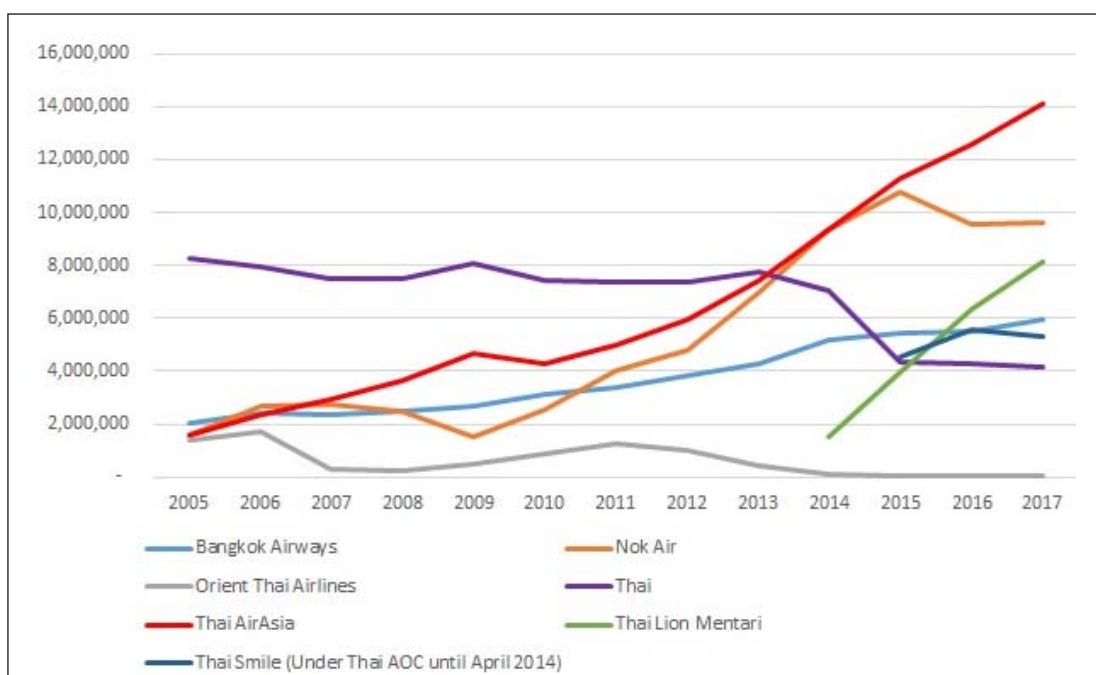

Figure 1. Thailand LCC domestic seat capacity.

million seats in 2017, with LCCs currently accounting for over 30% of international seat capacity in Thailand, compared to less than 20% five years ago.

Once again, Thai AirAsia in 2017 led Thai domestic capacity, operating 5.9 million domestic seats during the year, up 12.2% from a year earlier (Waldron, 2018), with Nok Air remaining second with 9.6 million domestic seats. Thai Lion during this period was in third place with 8.1 million seats, and added 28.6% additional domestic seats during the year, putting it within range of surpassing Nok in 2018.

Therefore, Thai AirAsia, Nok Air, and Thai Lion were selected for the study's focus on LCC competitiveness due to their market strength (Figure 1). Thai Smile was also added to the study due to the carrier's market strength at the time of research survey. Bangkok's two airports were selected for the study, which included the older and smaller, joint civilian/military airport of *Don Muang* (DMK), and the newer regional air hub of Suvarnabhumi (BKK).

Literature Review

Service Quality (ServiceQ)

Airline services are made up of tangible and intangible properties (Byun, Lee, & Rye, 2014). According to Curry and Gao (2012), service quality has become a significant strategic value in achieving a genuine and sustainable LCC competitive advantage in a global marketplace. This is consistent with consumer decision theory, which suggests that consumers likely choose products or services based on behavioral and attitude factors, not just price (Blythe, 2013).

In Turkey, Pakdil and Aydin (2007) also measured airline service quality using SERVQUAL. Of the variables measured, responsiveness was most judged to be most important, with aircraft availability being the least important. It was also noted that airlines needed to listen to the "voice of the customer." This was consistent with Amiruddin (2013), who also used the SERVQUAL model to measure tangibles, reliability, responsiveness, assurance, and empathy on Malaysia's AirAsia price, service quality, and customer loyalty.

Another component of service quality is reliability, which Baker (2014) defined as the ability to correctly provide the customers with services as promised without any assistance. Reliability can also be described as the ability of an LCC to perform a service dependably and accurately. These include such things as punctuality, the efficiency of the check-in process, and the convenience and accuracy of reservations and ticketing (Kim & Lee, 2011).

Another factor is tangibles, which are the physical equipment, facilities, personnel, and communication devices. Concerning LCCs, tangibles have been shown to be of the utmost importance (Kim & Lee, 2011), including customer responsiveness which is the ability of the LCC staff to quickly serve and help passengers.

The Marketing Mix 4Ps (Market4Ps)

To better analyze passenger responses, the expanded marketing mix 7Ps are shown in Figure 2. McCarthy in 1960 (as cited in Quelch & Jocz, 2008), first identified the original 4Ps as product, price, place, and promotion. These marketing mix elements were confirmed by Kotler and Armstrong (2010), which indicated that the marketing mix is a set of controllable tactical marketing tools which are used for organizations to implement their marketing strategies.

In AirAsia's rise to become the leading Asian LCC, it has been observed that AirAsia penetrated the aviation industry by gaining the competitors' customers through improving the product quality and its level of service (Yashodha, 2012). This strategy was important for AirAsia because retaining existing customers is cheaper than attracting new ones, and engaging in relationship marketing activities is pertinent in retaining its valued customers (Pearce & Robinson, 2009).

The Marketing Mix 3Ps (Market3Ps)

Qin (2012) also expanded the number of "Ps" to seven, and indicated in his research on Thai LCCs, that the service marketing mix consisted of *product, price, place, promotion, people, physical evidence*, and *process*. Furthermore, research on the LCC Ryanair indicated that the marketing Ps were implemented with little advertising (promotion), staff which are young and flexible (personnel), the types of aircraft used (physical environment), and a policy of first come, first served (process; Wharton, 2011).

Figure 2. The marketing mix 7Ps.
Note. Adopted from *The marketing mix debunked* (2017).

Customer Expectations (Customer)

Concerning LCC customer expectations, LCCs need to accurately identify the expectations of the passengers they offer services to, as most LCCs operate on the same routes with similar prices and capacities. Therefore, retaining passengers and loyalty seems to have become a critical requirement for companies to gain a competitive advantage, as customer satisfaction is what guarantees the future of airlines (Qin, 2012).

Competitiveness (Compet)

Porter (2004) discussed competitive strategies and their subsequent advantages, and developed three generic strategies which were termed cost leadership (no-frills airlines), differentiation (specialized products and services such as Singapore Airlines' A-380 Suites Class), and focus (offering a specialized service in a niche market; Baroto, Abdullah, & Wan, 2012; Li & Li, 2006).

Baroto et al. (2012) also discussed competitive advantage and determined that Malaysia's AirAsia has succeeded with a single strategy structured on cost leadership. Cost-leadership strategies strive to supply a no-frills, high-volume, standardized product at the most competitive price possible to passengers

(Li & Li, 2008). Preference for these strategies are often implemented in developing countries such as Indonesia, Malaysia, India, and China, where they have lower labor cost, and hence, a lower production cost (Aulakh, 2000). This was also confirmed by Acar and Karabulak (2015), which determined that low wages were a significant factor in both LCC and FSNC (full-service network carriers) success in Turkey.

Research Model

Model and hypotheses development, therefore, came from the SERVQUAL model for service quality, the service marketing mix of, 3Ps, 4Ps, and 7Ps literature concerning customer expectations and LCC competitiveness. From this, the following hypotheses were developed:

H1. The Marketing 3Ps (Market4Ps) positively affects Customer Expectations (Customer).
H2. The Marketing 4Ps (Market4Ps) positively affects Customer Expectations (Customer).
H3. The Marketing 4Ps (Market4Ps) positively affects Service Quality (ServiceQ).
H4. The Marketing 4Ps (Market4Ps) positively affects Competitiveness (Compet).

H5. Customer Expectations (Customer) positively affects Service Quality.

H6. Customer Expectations (Customer) positively affects Competitiveness (Compet).

H7. Service Quality (ServiceQ) positively affects Competitiveness (Compet).

Methods

According to Pituch and Stevens (2016).), a sample size of 15 cases per predictor in a standard ordinary least squares multiple regression analysis is considered adequate, since SEM is closely related to multiple regression in some respects. Therefore, as the study contained 18 observed variables, using the multiple of 15 x 18, 270 individuals were set as the initial target. It was later expanded to 320 passengers, as the surveyed commenced, to assure better survey accuracy (Table 1).

A seven-level Likert agreement scale was used to evaluate LCC passenger responses, with "1" indicating "strongly disagree," and "7" representing a response of "strongly agree." The survey also consisted of five sections containing a total of 58 items, of which nine items were concerned with the passenger's general characteristics, 21 items concerned with the service marketing mix, 15 items were concerned with service quality, four items were concerned with customer expectations, and nine items examined LCC competitiveness.

The LCC passenger questionnaire items were extracted after an examination of the literature's

theory. Some adjustment was necessary to fit within the context of Thai culture and Asian LCCs. Questionnaire validity was determined by interviews with five experts in their related fields and the use of the Index of Item Objective Congruence (IOC).

Further verification came from a 30-individual test (try-out) not used in the subsequent study. The IOC used, in conjunction with the expert group, was to evaluate the content of the survey's items. By definition, an IOC score greater or equal to 0.50 is considered acceptable, with items with an IOC less than 0.50 either being rejected or revised (Tavakol & Dennick, 2011). From the five experts, questionnaire item scores ranged between 0.915 and 0.963, which is deemed highly reliable (Kline, 2011).

The process of data collection for the study began with a sample survey which had to be approved by the university management board. This was followed by applying for permission from the targeted airlines' management staff to conduct the survey on their respective passengers. The airlines selected for the study were Thai AirAsia, Nok Air, Thai Lion Air, and Thai Smile (Suvarnabhumi Airport) due to their high domestic passenger rankings (Kositchotethana, 2017a).

Over a 4-month period, from Monday to Thursday from 9 A.M. to 3 P.M., two individuals were positioned at one of the four LCC check-in lines. Each week, the day in which one of the four airlines and airports was targeted was randomly rotated prior to the week's beginning. After the allocated period of four months, only 292 complete questionnaires had been collected,

Table 1

Population and Research Sample from Thai LLCs

Thai LCCs used in the study	Population (individuals)	% of total respondents	Sample total (individuals)
Thai AirAsia	22,414,088	46%	148
Nok Air	15,495,199	32%	103
Thai Smile	6,378,995	13%	42
Thai Lion Air	4,027,567	8%	27
Total	48,315,849	100%	320

Source: Airports of Thailand (2015).

Table 2

LCC Passenger Characteristics

Gender		**Respondents**	**%**
	Male	147	45.94
	Female	173	54.06
	Total	320	100
Age			
	30 years old or younger	160	50.00
	31 – 40 years old	89	27.81
	41 – 50 years old	52	16.25
	51 years old or over	19	5.94
	Total	320	100
Status			
	Single	190	59.38
	Married	104	32.50
	Widowed	9	2.81
	Divorced	17	5.31
	Total	320	100
Career			
	Public enterprise	118	36.88
	Government employee	69	21.56
	Entrepreneur/Business owner	23	7.19
	Other	110	34.38
	Total	320	100
Income			
	Less than 15,000 Thai Baht per month	98	30.63
	15,001 - 30,000 Thai Baht per month	119	37.19
	30,001 - 50,000 Thai Baht per month	76	23.75
	50,000 Thai Baht per month	27	8.44
	Total	320	100
Education			
	Below BA/BS (e.g. vocational certificate)	54	16.88
	BA/BS degree	188	58.75
	Graduate degree	75	23.44
	Other	3	0.94
	Total	320	100
Purpose of Travel			
	Leisure travel/holiday	208	65.0
	Work	77	24.1
	To do business	20	6.3
	Other	15	4.7
	Total	320	100
LCC travel experience in Thailand			
	1 - 5 times	139	43.4
	6 – 10 times	96	30.0
	11 – 15 times	30	9.4
	Over 15 times	55	17.2
	Total	320	100
The LCC most frequently used			
	Thai AirAsia (*Don Muang* - DMK)	148	46.25
	Nok Air (*Don Muang* - DMK)	103	32.19
	Thai Smile (Suvarnabhumi – BKK)	42	13.13
	Thai Lion (*Don Muang*-DMK)	27	8.44
	Total	320	100

representing a 91.25% completion rate of the 320 target. Therefore, another month was added to the collection period, from which 320 complete and audited questionnaires were used for the study.

Results

Passenger Characteristics

Table 2 shows that an overwhelming majority of Thailand's domestic air travel is done for pleasure (65%), of which the majority are women (54.06%). Speculation on the high number of female passengers relates to Thai culture as many Thai women avoid riding buses for long distances due to security and safety issues. The typical traveler is 30 years old or younger (50.0%). Also, it appears that flying can be a good way to meet someone as 59.38% are single. It also seems that these young travelers are upwardly mobile as 69.38% have incomes above 15,000 baht a month ($435.00), which is the government mandated minimum starting salary for individuals graduating from university. The Thai domestic LCC passenger is also well educated, with 82.19% having a bachelor's degree or higher. It is also interesting to note that of the total respondents, 56.6% had flown on an LCC domestically six or more times. It might be speculated that low cost is an incentive for customer retention.

Confirmatory Factor Analysis (CFA)

A CFA was carried out using structural equation modeling (SEM) with LISREL (Linear Structural Relationships) 9.10 to examine the general fit of the proposed model with data and to identify the overall relationships among these constructs (Byrne, 2010; Diamantopoulos & Siguaw, 2000). As suggested by Anderson and Gerbing (1998), a 2-step analysis was conducted in which analysis of the measurement model and both sets of dependent and independent variables were conducted separately. In the second step, analysis of the structural model of the two competing models of competitiveness was measured. In SEM, CFA is usually used to access construct validity (Jöreskog & Sörbom, 2015) with factor loadings or regression weight estimates of latent to observed variables having values greater than 0.50 indicating that all of the constructs conform to the construct validity test (Byrne, 2010; Hair, Hult, Ringle, & Sarstedt, 2016). The criteria for determining that the variables each have validity convergence is to have the AVE higher than 0.50 as well (Hair et al., 2016), which was confirmed in Table 3.

Furthermore, the construct validity and reliability assessment used guidelines from the scholars listed in Table 4. The results of the CFA shown in Table 4 indicated an overall good model fit and suggested no modification to the specified factor structure. All items

Table 3

Correlation Coefficients between Latent Variables (under the diagonal), Construct Reliability (ρC) and the Average Variance Extracted (AVE)

Latent Variables	Customer	Compet	ServiceQ	Market3Ps	Market4Ps
Customer Expectations (Customer)	**1.000**				
Competitiveness (Compet)	0.880	**1.000**			
Service Quality (ServiceQ)	0.880	0.827	**1.000**		
Marketing Mix 3Ps (Market3Ps)	0.772	0.743	0.796		
Marketing Mix 4Ps (Market4Ps)	0.855	0.834	0.904	**1.000**	
ρ_C (Construct Reliability)	0.914	0.931	0.921	0.850	0.929
ρ_V (AVE)	0.781	0.731	0.879	0.394	0.577
$\sqrt{AVE}$	0.884	0.855	0.937	0.627	0.759

Note: Average variance extracted is shown on the diagonal of the matrix. Square of inter-construct correlation is shown off the diagonal.

Table 4
CFA Standardized Factor Loading with Supporting Theory

Latent Variables	Observed Variables	Items (18)	Standardized factor loading	Supporting Theory
Service Quality (ServiceQ)	Reliability	(Y4)	0.86	Amiruddin (2013), Baker (2014), Blythe (2013), Byun et al. (2014), Chan (2014), Curry & Gao (2012), Kim & Lee (2011), Kuosuwan (2015), Lee (2016), and Pakdil & Aydin (2007)
	Responsiveness	(Y5)	0.92	
	Assurance	(Y6)	0.85	
	Empathy	(Y7)	0.79	
	Tangibles	(Y8)	0.79	
Customer Expectation (Customer)	Prior	(Y9)	0.93	Qin (2012) and Venkatesh (2013)
	Consumption	(Y10)	0.87	
	Expectation	(Y11)	0.86	
The Marketing 3Ps (Market3Ps)	People	(X1)	0.81	Qin (2012) and Wharton (2011)
	Process	(X2)	0.87	
	Physical Environment	(X3)	0.79	
The Marketing 4Ps (Market4Ps)	Promotion	(X4)	0.79	Diaconu (2012), Ishutkina & Hansman (2009), Kotler & Armstrong (2010), Pearce & Robinson (2009), Qin (2012), Quelch & Jocz (2008), Venkatesh (2013), Wharton (2011), and Yashodha (2012)
	Place	(X5)	0.82	
	Price	(X6)	0.89	
	Services	(X7)	0.88	
Competitiveness (Compet)	Cost Leadership	(Y1)	0.86	Acar & Karabulak (2015), Aulakh (2000), Baroto et al. (2012), Li & Li (2006), and Porter (2004)
	Differentiation	(Y2)	0.88	
	Focus	(Y3)	0.92	

loaded strongly on their respective constructs, with loadings well above a threshold of 0.60. Overall, the measurement model has a good model fit.

The Direct Effect (DE), Indirect Effect (IE), and Total Effects (TE)

Table 5 shows the DE, IE, and TE effects of each construct. The "*p*" value is the level of significance, with a *p* <0.01 indicating that the probability that the result is observed due to chance is 1% (a "false positive" result).

Structural Equation Model (SEM)

The SEM results in Figure 3 are from the analysis of the variables effects on LCC competitiveness. Table 6 showed that all models met the required criteria as the chi-square index was not statistically significant at 63.34, the *p* value was = 0.99, the root mean square error of approximation (RMSEA) = 0.00, goodness of fit index (GFI) = 0.98, adjusted goodness of fit index (AGFI) = 0.96, and the standardized root mean square residual (SRMR) = 0.01. Therefore, all causal factors in the model had a positive influence on the LCC competitiveness, which can explain 70% of the variance in the competitiveness of Thai LCCs (R^2; Table 5). The variables Marketing Mix 4Ps (Market4P), Customer Expectations (Customer), Marketing Mix 3Ps (Market3P), and Service Quality (ServiceQ) had a total value of 0.77, 0.62, 0.08, and 0.05, respectively (Table 5).

Table 5
Direct Effect, Indirect Effect, and Total Effect in Path Model (n = 320)

Dependent Variables		Independent Variables				
		R²	Customer	ServiceQ	Market3Ps	Market4Ps
Competitiveness	DE		0.60*	0.05	-	0.28*
(Compet)	IE	0.70	0.02	-	0.08	0.49*
	TE		0.62*	0.05	0.08	0.77*
Service Quality	DE		0.40*	-	-	0.56*
(ServiceQ)	IE	0.73	-	-	0.05	0.30*
	TE		0.40*	-	0.05	0.86*
Customer	DE		-	-	0.13	0.75*
Expectations	IE	0.82	-	-	-	-
(Customer)	TE		-	-	0.13	0.75*

Note: *Sig. < 0.01.

Table 6
Criteria and Theory of the Values of Goodness-of-Fit Appraisal

Criteria Index	Criteria	Values	Results	Supporting theory/comments
Chi-square ($\chi 2$)	(p >0.05)	63.34	passed	Jöreskog & Sörbon (2015)
Relative $\chi 2$ - $\chi 2/df$	≤ 2.00	0.661	passed	0 indicates perfect fit (Byrne, 2010)
GFI	≥ 0.90	0.980	passed	Jöreskog & Sörbon (2015)
AGFI	≥ 0.90	0.96	passed	
RMSEA	≤ 0.07	0.00	passed	0 indicates perfect fit (Hu & Bentler, 1999)
SRMR	≤ 0.05	0.01	passed	0 indicates perfect fit (Diamantopoulos & Siguaw, 2000)
Cronbach's Alpha	≥ 0.80	0.915-0.963	passed	Tavakol & Dennick (2011)

Hypotheses testing results from the use of LISREL 9.1 are summarized in Figure 3 and Table 7, which shows that H1 is not supported as the Marketing 3Ps play an insignificant role in LCC Customer Expectations. This is supported by numerous studies in which price has been determined to be the leading factor in LCC Competitiveness, which is a Marketing 4P element (Li & Li, 2008).
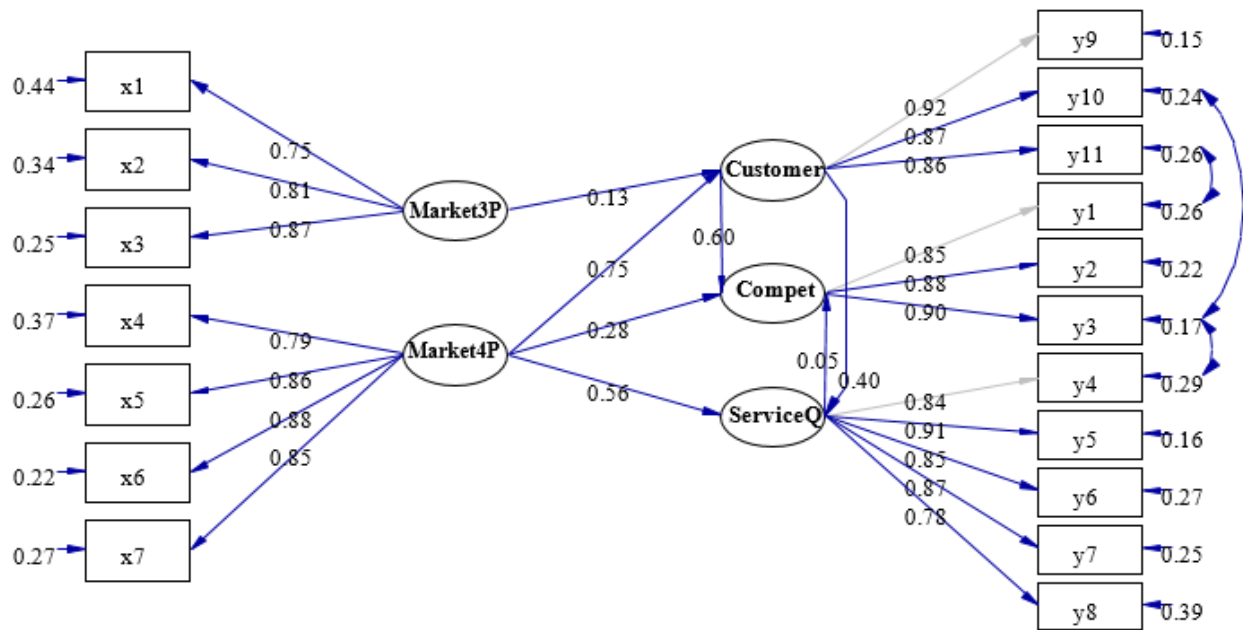
Figure 3. SEM final model.

Note. Chi-Square = 63.34, df=91, *p*-value = 0.99, RMSEA = 0.000.

Table 7
Hypotheses Testing Summation

Hypotheses	Coef.	t-value	Results
H1. The Marketing 3Ps positively affects Customer Expectations.	0.13	1.45	Rejected
H2. The Marketing 4Ps positively affects Customer Expectations.	0.75	8.13*	Supported
H3. The Marketing 4Ps positively affects Service Quality.	0.56	7.72*	Supported
H4. The Marketing 4Ps positively affects Competitiveness.	0.28	2.72*	Supported
H5. Customer Expectations positively effects Service Quality.	0.40	5.74*	Supported
H6. Customer Expectations positively effects Competitiveness.	0.60	6.51*	Supported
H7. Service Quality positively effects Competitiveness.	0.05	0.43	Rejected

Note: *Relationships are significant at the < 0.01 level, Coef. = standardized regression coefficients.

Hypotheses 2, 3, and 4 were also all supported in which the Marketing 4Ps (promotion, place, price, and services), were determined to positively affect Customer Expectations (Customer), Service Quality (ServiceQ), and Competitiveness (Compet; Ishutkina & Hansman, 2009; Qin, 2012; AND Venkatesh, 2013). This was also consistent with studies concerning LCC Ryanair, which identified the airline service marketing mix as focused on a cost leadership strategy (price), airport location outside the major hubs (place), direct marketing only with little advertising (promotion), staff which are young and flexible, and with a first come, first served policy (services; Diaconu, 2012; Wharton, 2011).

Concerning H5 and H6, Customer Expectations (Customer) were shown to have positive effects on both Service Quality (ServiceQ) and LCC Competitiveness (Compet). Confirmation of this came from a Singapore study by Venkatesh (2013) on LCCs.

Finally, results do not support H7 and the relationship between ServiceQ and Compet. Some support for this comes from Chan (2014) and Kuosuwan (2015), whose studies indicated that LCC passengers are often willing to have revise their service expectations due to a lower offered price. However, in the research by Vuthisopon and Srinuan (2017), it was suggested that the more mature LCC industry in Asia (e.g., AirAsia) might be shifting to what is being called passenger "premium services." Australia's Jetstar, which is also a low-cost subsidiary of Qantas Airways, now offers "FlexiBiz" for business travelers, which is also blurring the line between LCCs and full-service airlines (FSNC; Sevagian, 2016).

Discussion

Due to multiple factors, including aviation deregulation, open skies policies, a more affluent consumer market, and a new generation of entrepreneurial leaders, ASEAN LCCs have been a runaway success story (AirAsia, 2011, 2015; Baker, 2013, 2014; Camus, 2017; Damuri & Anas, 2005; Kim & Lee, 2011). Presently, 20 LCCs with more than 690 aircraft are flying the low-cost ASEAN skies (Centre for Aviation, 2018b), with Bangkok, Thailand a major LCC hub. This, however, pales in comparison

to Boeing's 2016 report which predicted the need for 6,810 new aircraft in China alone over the next 20 years, which is worth an estimated $1.025 trillion (Boeing, 2016). Additionally, according to a report by the Pacific Asia Travel Association, Asia Pacific smashed the old record in foreign arrivals in 2017 with a cumulative count of 636 million visitors to the region (The Nation, 2018), with Thailand being fifth overall in adding foreign arrivals between 2016 and 2017 (+2.852 million).

The liberalization of ASEAN's aviation sector will also be a major catalyst for the region's 10-nation economic growth by 2030, with LLCs today accounting for about 60% of the total aviation market (DuPont, 2015). In some markets such as the Philippines, this percentage rises to 70% to 80% (Ocampo, 2017). Growth, however, has led to more fierce competition and lower ticket prices amongst LCCs, with carriers looking for new routes into new markets to offset passenger losses to competitors, thus depressing yields and cutting into their profitability (Kositchotethana, 2017b). It, therefore, appears that further regional and Asian expansion is in many Thai LCCs game plan for profitability and possible survivability.

In Turkey, it was determined that for LCCs to offer competitively low fares and be profitable, LCCs must be able to operate at substantially lower unit costs than FSNC airlines (Acar & Karabulak, 2015). LCC cost advantages stem from the carrier's simple product features and simplified operations, as well as low staff wages being a significant factor in both LCC and FSNC success in Turkey.

LCC competitiveness has also been determined to come from other factors such as higher seating density and higher daily aircraft utilization, as well as the use of less congested suburban and rural airports (Macario et al., 2007). These airports allow for quicker turnaround times and less taxing times, and the reduction in airport charges such as aircraft landing fees and passenger-related charges (Acar & Karabulak, 2015).

In Thailand, the use of underutilized airports has taken on a larger dimension. To relieve critical airline congestion and serve as a new economic and infrastructure hub, the Vietnam era, joint Thai Navy/ civilian airfield of U-Tapao is being upgraded to serve as the hub for Thailand 4.0's new Eastern Economic

Corridor (Jones & Pimdee, 2017). The US$5.7 billion investment plan includes runway expansion and new aircraft hangars and maintenance facilities, which is slated to be the starting place for Thailand's push to become Asia's next major aviation hub (Bellamy, 2017).

In *U-Tapao's transition* into a joint civilian-military airport, annual passenger numbers jumped from 168,000 in 2014, to 750,000 in 2016. In 2018, the U-Tapao Airport Authority director stated that the 2017 passenger arrivals had reached one million annually, with the number of arrivals projected to reach two million in 2018 (Chaitrong, 2018). To support this, the new US$480 million, 20,000 square meter terminal two is expected to complement Thai AirAsia and Thai Lion Air use of U-Tapao as their new hubs into new international markets such as Macau, Nanning, Nanchang, and Kuala Lumpur (Thai AirAsia), and Chengdu and Chongqing (Thai Lion Air; Citrinot, 2017). Once again, competition is fierce for the expected 10 million plus Chinese tourists projected in 2018 for Thailand.

Another factor in LCC competitiveness is their relatively newer aircraft of a single type (Cederholm, 2014). An example of both can be found in Ryanair's fleet of 370 Boeing 737-800s (Diaconu, 2012; Wharton, 2011). By using these strategies, training and maintenance costs are reduced while also reducing fuel costs, as a younger fleet is more fuel efficient. This strategy is another way to achieve competitiveness by reducing direct operating cost.

Cost savings can also be realized by the outsourcing of maintenance requirements and, in some cases, line maintenance. This is consistent with Indonesia AirAsia which, by maintaining a high level of service quality and continuously enamoring its guests with warm hospitality, was able to gain marketplace recognition (AirAsia, 2015).

Even if astonishing growth rates ebb lower as markets grow more mature, Boeing has projected that over the next 20 years Southeast Asian carriers will account for 4,210 new airplanes worth $650 billion. The Boeing projections are based on an estimate of annual traffic growth of 6.2%.

This ever-increasing number of LCCs and their aircraft fleets reflects the growing popularity of LCCs due to their lower fares than FSNCs (by a margin of about 30%), their growing networks, additional frequencies, and heavy sales promotions (Hilman, Hanaysha, & Ghani, 2017; Kositchotethana, 2016). Although these numbers are impressive, Asian LCCs are operating at profit margins of only 8%, which is significantly smaller than those of their western nation rivals, which operate at 15% profit margin (Whitley, 2016). Also, ASEAN and Asian aviation, in general, are already among the world's most competitive markets, with 75% of the routes operated by more than three carriers. These factors have, therefore, contributed to the statistics that there were only five profitable LCCs in the region out of 20 carriers in 2017. In 2015, there were 23 carriers (DuPont, 2015). Competitiveness, therefore, has become the watchword for survivability, and although the future is bright for LCCs, there will be dark clouds for those that do not maintain extreme vigilance on their service marketing mix, service quality, and the identification of their customers' expectations.

Ethical clearance:

The study was approved by the institution.

Conflict of interest:

None.

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