

## The Effect of Demographic Information as Moderator toward Relationship between Service Quality, Customer Satisfaction, and Customer Loyalty in Thai Low Cost Carriers' Passengers

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### Abstract

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This paper intends to study the effect between service quality and customer satisfaction; customer satisfaction and customer loyalty; also the effect of demographics as moderator toward the relationships. The demographic variables: gender, age, education level, and income, are considered as the moderating factors. The respondents are passengers using low cost airline only in domestic. Structural equation model (SEM) is applied to discover the effects following the objectives of study. According to the result, gender affects the relationship between assurance and customer satisfaction to be negative whereas age affects their relationship to be positive. Furthermore, gender affects the relationship between empathy and customer satisfaction to be positive. For income level, it affects the relationship between reliability and customer satisfaction to be negative effect. Lastly, the education level affects the relationship between customer satisfaction and customer loyalty to be negative effect. In conclusion, the demography should be extended to study in various fields for explaining the phenomenon of demographic.

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**Keywords:** demography, moderator, service quality, customer satisfaction, customer loyalty, low cost carriers

### Introduction

#### Background of Problem

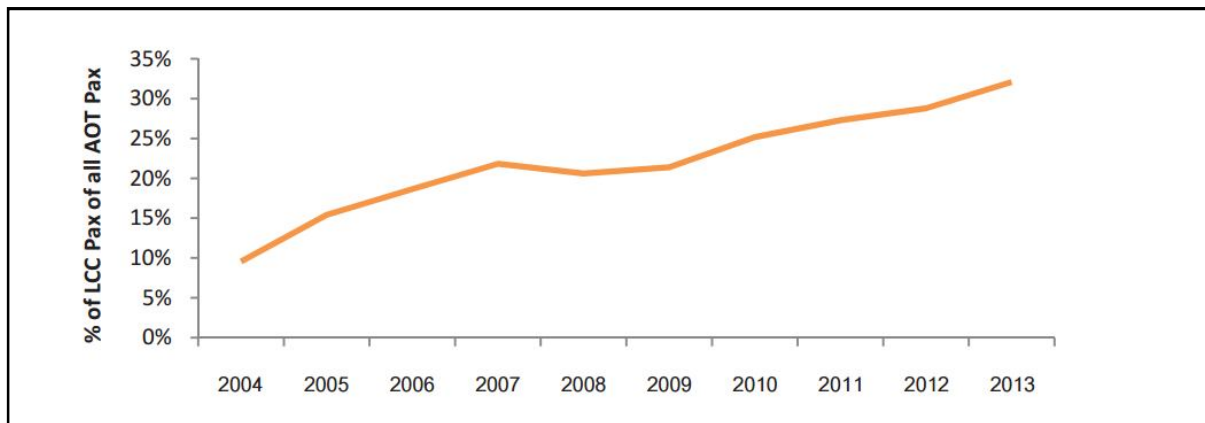
The market of low cost airline in Thailand increases significantly, which reached 32.1 percent in 2013 as shown in figure 1. The major reason of increasing amount of domestic passengers is no differences in price between land transportation and low cost airline. The advantage of low cost airline is less time consuming for traveling. Also, the lower fare allowed people who have lower income be able to fly more frequent. As a consequence, travelers use the service of low cost airline much more than using buses, trains or cars (Annual Report of Airports of Thailand Public Company Limited, 2013).

The characteristics of low cost carriers are: low price; direct booking; point-to-point network; one class of seat; no free food and beverage; 30 minutes or less turning around time; underperforms services; using secondary airport; and focusing on price sensitive passengers (Baker, 2013). The revenue of low cost airlines increased is not mainly from passengers who were new to the industry but from switching full service airline passengers (Suriya, 2009) and land transportation. Hence, the market of domestic is still impressive for low cost airline business.

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**Figure 1:** Percentage of passengers using LCC airlines at Airport of Thailand from 2004 to 2013 **Source:** Annual Report of Airports of Thailand Public Company Limited, 2013

There are six low cost airlines penetrating in Thailand: Thai AirAsia, Nokair, Thai Lion Air, Thai Smile, and others. The volume of market share (% of seats) for domestic in year 2015 consists of Thai Air Asia (38 percent), Nokair (38 percent), Thai Lion (18 percent) and Thai Smile (4 percent), and others (2 percent), respectively. Thai Smile has just started low cost flight services. Moreover, the competition among low cost airline aims to be higher because the foreign airlines are also free to set up operation in any country after AEC started especially in Thailand. Since, Thailand is located suitably to be the hub of airline industry, there are many airline investors also want to earn market share in this industry (<http://centreforaviation.com>, accessed on 19 February 2016).

With the challenging situations: foreign low cost airline competitors; high fuel cost; financial operation; slow economic growth and etc. are tremendous pressure to all low cost airlines. As a consequence, they cannot use only pricing strategy to retain the customers because of diversity of passengers and over supply. Hence, the outstanding service quality can be one of effect to increase the satisfaction of customers (Ariffin, Salleh, Aziz, & Asbudin, 2010) and also retain the customers (Qin, 2012; Saha & Theingi, 2009).

In addition, moderator factors provide fruitful explanatory result. They provide the rich understanding of a phenomenon and extended meaningful of relationships even creating the new relationships (Venkatesh, Thong, & Xu, 2012). They also gain significantly the popularity in the area of marketing research (McMullan, 2005). Perceived value, perceived price are found to be moderating factors significantly between service quality and customer satisfaction (Lee, 2013). Furthermore, demographic factors are proposed as interesting to be discovered as concept of moderating effects in tourism industry (Velázquez, Saura, & Molina, 2011).

The objectives of this work are threefold: 1) to determine the relationship between service quality and customer satisfaction; 2) to discover the effect of customer satisfaction on customer loyalty; and 3) to find out the effect of moderating roles of demographic information.

## 1. Theoretical Background and Hypotheses

### 2.1 Service Quality

The service quality has always been widely and much debated in the literature throughout last 25 years (Ariffin, et al., 2010; Pakdil & Aydın, 2007). Its concept comes from marketing background and be able to build the relationship with customers (Williams & Buswell, 2003) because it is evaluated by customers. As a consequence, the customer's own evaluation can influent the behavior in the future; the customer may satisfy or may not satisfy to purchase the product or services (Zeithaml, Berry, & Parasuraman, 1996). Service quality can be defined only by customers which satisfies customer's needs (Metters, King-Metters, Pullman, & Walton, 2008). Service quality perceptions are multidimensional aspect. The measurement of service quality generally is comparing between expectation and perception which consists of five factors (SERVQUAL): tangibles, reliability, responsiveness, assurance and empathy (Parasuraman, Berry, & Zeithaml, 1991). They compare their expectations with perceptions of services that they have received (Grönroos, 1984).

Although, SERVQUAL has been widely applied, the expectation-perception framework has problematic issues: questionable validity and definition of expectation (Teas, 1993). Normally, the people stimulation will be estimated by comparison the evoked norm after the fact rather than prior expectation (Kahneman & Miller, 1986). The respondents confuse to answer both expectation and perception of service quality. This is the pitfall of SERVQUAL model in theoretical and practical assessment problem.

Hence, Cronin and Taylor (1992) proposed the customers' performance perception (SERVPERF) to assess the service quality (Cronin Jr & Taylor, 1992). The performance-only measurement had been proposed and found higher  $R^2$  in this measurement (Cronin Jr & Taylor, 1994). They stated that a performance-based measure improved means of measuring the service quality construct. Presently, it is widely disseminated as the instrument to measure and recommended to be suitable instrument to affect the customer satisfaction and brand loyalty (Cronin, Brady, & Hult, 2000). As a consequence, this study uses the five factors of service quality by applied only performance-based measurement.

## 2.2 Customer Satisfaction

Customer satisfaction is defined as "consumer's response to the evaluation of the perceived discrepancy between prior expectation and the actual performance of the product as perceived after its consumption" (Tse & Wilton, 1988). Construct of customer satisfaction depends on a variety of factors: perceived service quality, customers' mood, emotions, social interactions, and experiences. However, customer satisfaction can be viewed as an attitude due to be assessed as the overall satisfaction level with various attributes of product or service (Churchill Jr & Surprenant, 1982; Hansemark & Albinsson, 2004) or cumulative view of satisfaction (Høst & Knie-Andersen, 2004) in order to reduce the pitfall of measurement.

In business, customer satisfaction can be an indicator of success measurement. The increment of satisfaction can stimulate customer to use the airline service which affects the profit of organization. Customer satisfaction is the key important factor as intermediate between service quality and customer loyalty to raise the benefit in every organization (Ranaweera & Prabhu, 2003). The accepted philosophy in successful and profitable business or organization is the increment of customer satisfaction. It does strongly assist the organization to retain the customer and influence the good word of mouth through society.

As the result, customer satisfaction in this study is measured as the total perception of satisfying evaluation in using the service of low cost carriers. In addition, it is selected as the mediating factor between service quality performance perception and customer loyalty.

## 2.3 Customer Loyalty

Customer loyalty refers to the emotional and psychological state of repurchases and recommendation on products or services of customer (Reichheld, 1992) which defined as 'deeply held commitment to re-buy or re-patronize a preferred product or service consistently in the future'. The construct can be gauged by the number of repeated purchase (Zeithaml, et al., 1996). There are three popular perspectives of loyalty: (1) attitude that results in relationship with brand, (2) favorable behavior, and (3) buying moderated by individual characteristics, circumstances and purchase situation (Uncles, Dowling, & Hammond, 2003). Customer loyalty also includes recommendation to others and repurchasing intention (Dimitriades, 2006).

.In previous studies, customer loyalty construct was similar to behavioral intention. They measured the behavioral intention into three dimensions: measures passengers' repurchase intention, word of mouth, and feedback (Huang, 2009; Park, Robertson, & Wu, 2005; Saha & Theingi, 2009). As a consequence, the behavioral intention is similar to customer loyalty.

The airline businesses offer many promotion programs to receive the customer loyalty because customer loyalty can reduce the switching cost of airline services. Hence, they compete extremely for increasing the customer satisfaction level in order to obtain customer loyalty by providing good service quality perceptions. Hence, customer loyalty should be appended into study in order to foster the profitability of low cost airline industry.

## 2.4 The relationship between service quality, customer satisfaction, and customer loyalty

To achieve the higher level of customer satisfaction, the higher level of service quality should be delivered by the airline business. Service quality is posited to customer satisfaction (Zeithaml, Bitner, & Gremler, 2006). The service quality provided in the flight delivers positive significantly on passengers' satisfaction (Archana & Subha, 2012). Service quality model is applied and found that employee attitude, promptness and accuracy are significant in low cost airline while the tangible is not significant (Suhartanto & Noor, 2012). In contrary, tangible is significant to passengers' satisfaction in low cost airline industry in Thailand (Qin, 2012; Saha & Theingi, 2009). In addition, empathy, responsiveness and reliability factors also significantly affect the customer satisfaction (Qin, 2012). Also, the services provided by the flight attendance and ground staff also impact on satisfaction (Saha & Theingi, 2009).

- H1: Tangibility has a positive and significant influence on customer satisfaction
- H2: Reliability has a positive and significant influence on customer satisfaction
- H3: Responsiveness has a positive and significant influence on customer satisfaction
- H4: Assurance has a positive and significant influence on customer satisfaction
- H5: Empathy has a positive and significant influence on customer satisfaction

Customer intends to repurchase the product when it satisfies the customer. The more customers satisfy the product, the more they become loyalty (Lee, 2013). It implies that the level of satisfaction impacts positively on repurchasing behavior (Qin, 2012; Saha & Theingi, 2009). In tourism, customer satisfaction indicates the clear direct effect on repeat purchase and recommendations to others (Pakdil & Aydın, 2007).

- H6: Customer satisfaction has a positive and significant influence on customer loyalty

## 2.5 Moderator

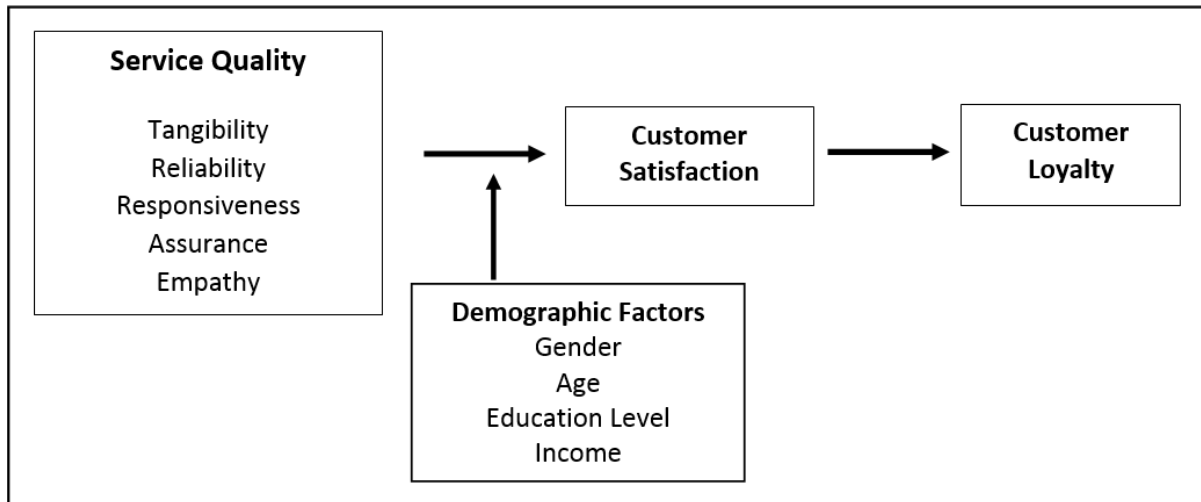
Moderators are the variables that are able to modify the direction of relationship between independent and dependent variables. In MIS research, the usage of moderators is not much represented; however, the demographic variables are important to describe the effect and direction of various relationships in marketing field (Roslow, Li, & Nicholls, 2000).

In previous study, demographic factors are studied to find the effects of relationship between demographic factors and satisfaction; also moderating effect between service marketing mix and satisfaction (Charoensettasilp & Wu, 2013). The result shown that they have the direct effect to satisfaction but they were not moderating factors between service marketing mix and satisfaction.

Serenkom et al. (2006) studied the effect of moderating factors: age, income and gender (Serenko, Turel, & Yol, 2006). According to result, the demographic variables as moderator have the effect and they are important to describe the phenomenon of some relationship between independent and dependent variables.

In addition, demographic factors are proposed as the conceptual model to be the moderating factors (Tahini, Hone, & Liu, 2014; Venkatesh, et al., 2012) between service quality and satisfaction (Min & Khoon, 2014; Sharma, Chen, & Luk, 2012). In this study, demographic factors are studied as moderating factors to describe the effect between service quality and satisfaction; satisfaction and loyalty (Velázquez, et al., 2011).

- H7: Gender has a significant effect on the relationship between service quality and customer satisfaction.
  - H8: Age has a significant effect on the relationship between service quality and customer satisfaction.
  - H9: Education level has a significant effect on the relationship between service quality and customer satisfaction.
  - H10: Income has a significant effect on the relationship between service quality and customer satisfaction.
- As a consequence, the research model is adopted as shown in figure 2.



**Figure 2:** Measure and appraise model for low cost airline passengers' satisfaction and loyalty

## 2. Research Methodology

### 3.1 Data Collection

The respondents are 477 observations who have experience on either one of two low cost airlines: Nokair or Airasia, whereas the usable questionnaires are 468 observations. However, the minimum requirement of sample size should be at least 400 (Yamane, 1973). The respondents are randomly selected and screened by focusing on domestic flight only. The age of respondents is focused on at least 20 years old because they have potential to make decision and choose their preferred transportation. The questionnaires are distributed at Don Muang International Airport because both airlines provide aviation service.

### 3.2 Research Instrument

The questionnaire consists of three parts: personnel information; general behavior of using low cost airline; and perception of service quality approaching to airline service. The perception of using service is measured by using 5 Likert scale level. The perception measurement comprise of 7 dimensions: 5 items in tangibility; 4 items of reliability; 3 items of responsiveness; 4 items of assurance; 4 items of empathy; 1 item of overall satisfaction; and 7 items of loyalty. The validity of instrument is corrected and translated into local language. The reliability of instrument is 0.914.

### 3. Data Analysis and Findings

**Table 1:** Demographics characteristics of respondents ( $n = 468$ )

Demographic Factors	Number	Percentage
<b>Gender</b>		
Male	200	42.7
Female	268	57.3
<b>Age</b>		
20 – 30 years old	219	46.8
31 – 40 years old	143	30.6
41 – 50 years old	78	16.7
51 – 60 years old	28	6.0
<b>Education Level</b>		
Lower than bachelor degree	42	9.0
Bachelor degree	299	63.9
Higher than bachelor degree	127	27.1
<b>Monthly Income</b>		
15,000 baht or lower	101	21.6
15,001 – 30,000 baht	212	45.3
30,001 – 45,000 baht	64	13.7
45,001 – 60,000 baht	48	10.3
Higher than 60,000 baht	43	9.2

According to table 1, shows that the proportion of gender; male (42.7%) and female (57.3%). Most of them are age between 20 – 30 years old (46.8%), 31 – 40 years old (30.6%), 41 – 50 years old (16.7%), and 51 – 60 years old (6.0%). Majority of respondents' education level is bachelor degree (63.9%), higher than bachelor degree (27.1%), and lower than bachelor degree (9%), respectively. The majority of respondents has income between 15,001 and 30,000 baht (45.3%), below 15,000 baht (21.6%), between 30,001 – 45,000 baht (13.7%), between 45,001 – 60,000 baht (10.3%), and above 60,000 baht (9.2%), respectively.

**Table 2:** Number and percentage of reasons selecting low cost carriers service (multiple responses)

Reasons	Number	Percentage
<b>Reasons selecting LCC</b>		
Low price ticket	294	28.4
Time accuracy (Not delay)	75	7.2
Attractive promotion	236	22.8
Brand image	72	6.9
Safety	91	8.8
Flight schedule satisfaction	147	14.2
Convenience to airport	122	11.8

According to table 2, shows the percentage of reasons for selecting low cost carriers; the respondent can respond multiple answers. The sequence of reasons to use low cost airline; from the most to the least, are low price ticket (28.4%), attractive promotion (22.8%), flight schedule satisfaction (14.2%), convenience to airport (11.8%), safety (8.8%), time accuracy (7.2%), and brand image (6.9%), respectively.

**Table 3: Principle component analysis factor loading and composite reliability**

<b>Constructs and items</b>	<b>Standardized loadings</b>	<b>Composite reliability</b>
<b>Customer loyalty</b>		
I am pleased to recommend this airline to other people.	0.829	0.942
I am proud of being passenger of this airline.	0.797	
This airline is my first choice.	0.784	
I will choose this airline next time of flying.	0.775	
This airline is very attractive.	0.773	
I desire to use this airline.	0.767	
This airline is good.	0.725	
<b>Reliability</b>		
Passenger's information is recorded correctly.	0.726	0.872
Staff inform date, time, and any necessary details clearly.	0.691	
Staff can provide services professionally.	0.681	
Staff are reliable.	0.527	
<b>Tangibility</b>		
The comfort of the aircraft's seat.	0.822	0.859
Interior space and lavatory are wide and clean.	0.739	
There are visually attractive, modern physical on board facilities.	0.735	
The aircrafts are new, safe, and high standard.	0.697	
The air conditioner in the aircraft is comfortable.	0.548	
<b>Empathy</b>		
Efforts flight attendants to understand passengers' needs.	0.745	0.916
Flight attendants has a pleasant demeanor and provides individual attention.	0.723	
The efforts of flight attendants to explain to passengers in a language that is easily understood by passengers.	0.695	
Empathy of flight attendants towards passengers	0.683	
<b>Responsiveness</b>		
Responsiveness of staff towards passengers.	0.750	0.912
The response of staff to provide services required by passengers to quickly.	0.716	
The willingness of staff to help passengers.	0.664	
<b>Assurance</b>		
Passengers can access and contact airline easily (i.e. telephone, or website).	0.779	0.883
Degree of airline's trust transmitted to the passengers.	0.625	
Passengers' assurance towards staff.	0.606	
Level of knowledge of staff in responding to passenger's questions.	0.505	
<b>Customer satisfaction</b>		
Satisfaction level of using airline's service		

According to table 3, shows the assessment of factor loading and reliability of each construct. The result of the table shows that all constructs are acceptable; composite reliability greater than 0.7. The analysis shows the total variance explained 76.382% which satisfies in social sciences research.

**Table 4: The result of the effect between five constructs of service quality and customer loyalty classified by moderating factors**

Independent Variables	Customer's Satisfaction				
	Model 1	Model 2	Model 3	Model 4	Model 5
Tangible (TAN)	0.143***	0.100	0.183**	0.184	0.018
Reliability (REL)	-0.026	0.003	0.100	0.141	0.197
Response (RES)	0.084	-0.022	0.191	-0.082	0.092
Assurance (ASS)	0.331***	0.730***	0.166	0.256	0.324***
Empathy (EMP)	0.293***	-0.007	0.232*	0.292	0.199
Gender x TAN		0.102			
Gender x REL		-0.087			
Gender x RES		0.172			
Gender x ASS		-0.816**			
Gender x EMP		0.659*			
Age x TAN			-0.106		
Age x REL			-0.408		
Age x RES			-0.291		
Age x ASS			0.516**		
Age x EMP			0.169		
Education x TAN				-0.067	
Education x REL				-0.308	
Education x RES				0.290	
Education x ASS				0.139	
Education x EMP				-0.002	
Income x TAN					0.363
Income x REL					-0.714*
Income x RES					-0.025
Income x ASS					0.029
Income x EMP					0.293
CMIN/DF	12.917	4.835	6.468	4.236	7.402
NFI	0.971	0.995	0.995	0.995	0.994
RFI	0.880	0.980	0.980	0.980	0.976
TLI	0.888	0.984	0.983	0.984	0.979
CFI	0.973	0.996	0.996	0.996	0.995
RMR	0.125	0.042	0.068	0.050	0.093
RMSEA	0.160	0.091	0.108	0.083	0.117
R-square	0.514	0.528	0.529	0.516	0.522

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

The value of CMIN/DF, RMR, and RMSEA, should be reduced whereas the value of NFI, RFI, TLI, CFI and R-square should be increased in order to describe the better improvement of model. According to table 4, all models with moderating factor are improved in all criteria compared to the original model. The interactive term makes a contribution in R-square by incrementing of its value from the original model.



With original model, three independent variables: tangibility, assurance, and empathy are significant positively influence on customer satisfaction. The important significant variables can be ranked from the most to the least: assurance, empathy, and tangible, respectively.

For gender as moderator, it has a significant effect on the relationship between 2 pairs: assurance and customer satisfaction; empathy and customer satisfaction. Gender causes the negative effect on relationship between assurance and customer satisfaction whereas it causes the positive effect on relationship between empathy and customer satisfaction. For the age as moderator, it has a significant positive effect on the relationship between assurance and customer satisfaction. For education level, it does not have effect on the relationship between any service quality constructs and customer satisfaction. For the income as moderator, it has a significant negative effect on the relationship between assurance and customer satisfaction.

**Table 5: The result of the effect between customer satisfaction and customer loyalty classified by moderating factors**

Mediating Factor	Customer Loyalty				
	Model 1	Model 2	Model 3	Model 4	Model 5
Satisfaction (SAT)	0.773***	0.773***	0.761***	0.805***	0.771***
Gender x SAT		0.001			
Age x SAT			0.048		
Education x SAT				-0.058**	
Income x SAT					0.009
R-square	0.598	0.598	0.600	0.600	0.598

\*p < 0.1, \*\*p < 0.05, \*\*\*p < 0.01

According to table 5, customer satisfaction has positive and significant influence on customer loyalty. However, there is only one demographic variable: education level can be moderating factor of the relationship between customer satisfaction and customer loyalty. It affects significantly with negative relationship between two variables.

### Conclusion and Implication

The service quality toward customer satisfaction was studied variously in many situations. Most of study, the demographic variables were collected to test hypothesis by comparing the perception of service quality constructs in different categories. Less of researcher focused demographics as the moderating factors; even though, many researchers found that demographics were significant to have the effect as being moderators (Dewan & Dr. Mahajan, 2014; Serenko, et al., 2006; Venkatesh, et al., 2012). The implication of negative relationship between assurance and customer satisfaction when gender is the moderating factor can be explained. The effect of the relationship will be increased by male; it is reduced when the passenger is female. Male passengers consider trust of accessing to information, airline and knowledge of staff in response rather than female. The airline should consider the image of trust in airline in order to motivate male satisfaction.

Moreover, the effect of relationship between empathy and customer satisfaction when gender is the moderator has positive effect. The relationship between two variables is increased by female rather than by male. According to the result, female passengers focus on the flight attendants' understanding their needs, providing individual attention, ability to explain the passengers. The customer satisfaction of female will be increased when they have been served with high empathy. Furthermore, the effect of relationship between assurance and customer satisfaction when age is the moderator has positive effect. This effect can be explained: the relationship between two variables is enlarged because of the higher age. The older passengers will think more wisely on the assurance of the airline service. The trust of airline is important to increase the level of customer satisfaction of ageing passengers.

In addition, there is negative effect between reliability and customer satisfaction when income behaves as the moderating effect. The result can be implied that the effect will reduced if the passenger has the higher income. According to result, the lower income passengers will consider the time of departure and arrival strictly. They need the correct information to increase the satisfaction using the low cost airline service.

The low income passengers must work competing the running out of time. Hence, the correct information should be clear identified and updated for their trip.

Lastly, there is negative effect between customer satisfaction and customer loyalty when education level behaves as the moderating effect. The effect between independent variable and dependent variable is decreased by the passengers who have higher education. The result is implied that the passengers who have high education level will not be customer loyalty easily: only customer satisfaction is not enough to stimulate customer loyalty for high education passengers. They are looking for other components to motivate customer loyalty. Although, the low education level passengers are customer loyalty easily, the airline should also provide them the good service to increase the satisfaction. The airline does not have to invest more money to provide the extra service to these customers but the passengers still become the customer loyalty.

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