

LEVEL 7 ASSESSMENT SPECIFICATION

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The Impact of Service Quality, Customer Satisfaction, Perceived Value on Low-Cost Carrier
Airline Passenger Loyalty in Hong Kong

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1) Introduction

The competition in the airline industry has been very fierce since the deregulation of airline industry in the United States in 1978. The deregulation created opportunities for low-cost-carrier (LCC) airline companies to compete with the full-service carrier (FSC) airline companies. LCC airline companies dropped some free services such as in-flight drinks, meals and baggage, those usually provided by the FSC airline companies; they also adopt advanced technology such as on-line ticketing and check-in, shorter airport parking time, more flexible work rules to boost the efficiency of both aircrafts and work force. In addition, they provided more point-to-point flights to better serve their customers. On the other hand, FSC airline companies also adopt some of the efficient measures used by the LCC airline companies, for example, on-line ticketing and check-in, to reduce their operating costs. They also utilized the hub-and-spoke networks to concentrate their customers and carry them by large aircrafts to save operating costs (Belobaba et al., 2015). In order to strengthen their competitiveness, they imitated the cost-cutting strategies and business strategies each other. As a result, their operating costs became similar to each other around 2010. Recently, the invention of fuel efficient mid-size aircraft makes the long-haul point-to-point flight feasible at a low cost, which stimulates the demand for LCCs (Boeing, 2017).

The competition in the airline industry seemed to focus on price. Some researchers found that price was the key determinant for customers to choose airline companies regardless they are LCC or FSC; other researchers pointed out that value for money was the main factor while there was new opinion that the low price was the consequence of efficient competition, because those business and pricing strategies were easy to imitate, therefore, it should have no trade-off between price and service quality (Koklic, Kukar-Kinney and Vegelj, 2017).

Hong Kong is one of the largest financial centre and busiest international travelling hub in the world with over 1,100 arrival and departure flights per day, severing over 72.9 million air travellers in 2018 (Hong Kong International Airport, 2019). The importance of the LCC airline services becomes higher and higher as more and more people take LCCs to travel around the world. Nevertheless, the operation of LLC airline becomes tougher recently as one of the operators went bankrupt in Iceland on 29 March 2019 due to intense competition and high fuel costs (Reuters, 2019). Finding out important factors to win the loyalty of LCC airline customers becomes imminent. The aim of this research is to identify the major factors which influence Hong Kong air travellers to select LLC airlines, through pilot testing the relationships between service quality-loyalty, customer satisfaction-

loyalty, perceived value-loyalty of LCC airline customers and developing a more sophisticated test model for these relationships.

2) Literature Review, Conceptual Framework and Hypotheses Development

2.1) Literature Review and Conceptual Framework

Many researches indicated that quality service, perceived value, and customer satisfaction would build customer loyalty, which in turn helped a company survive in a hyper competition environment (Sandada and Matibiri (2016), Koklic, Kukar-Kinney and Vegelj (2017), Chen and Hu (2013), Jiang and Zhang (2016), Ostrowski, O'Brien and Gordon (1993), Dehghan and Shahin, (2011), Namukasa (2013)).

According to Dehghan and Shahin (2011), customer loyalty towards a particular service provider meant: 1) a favourable word-of-mouth for that particular service provider, 2) a preference towards that particular service provider, 3) unwilling to switch to other service provider and 4) identifying with the service provided by that particular service provider. If a large number of passengers had the loyalty towards a particular airline company, that company could survive in the keen competition.

Service quality was composed of two parts. The first part was meeting the customers' needs and requirements, the second part was how well the service matched the customers' expectations. In the airline industry, service quality could be sub-divided into pre-flight, in-flight and post-flight service quality (Namukasa, 2013). Customer satisfaction was derived from customers' overall experience of the service provided, service quality was one of the aspects inside the overall experience. Since the personal interaction was only a part of the service provided by the airline industry, other tangible dimensions such as the flight facilities would also be a factor to form customer satisfaction (Saha and Theingi, 2009). Perceived value was obtained by comparing between all kinds of costs paid with all kinds of benefits received by the customers (Zeithaml et al. 2013). Time to wait for the overall airline services and the price of the air ticket were major components of the overall costs.

Ostrowski, O'Brien and Gordon (1993) did a research on the relationship between service quality and customer loyalty in the airline industry. They applied the ratio scale to force respondents to rank the importance of schedule convenience, price of the ticket, loyalty program and airline preference in selecting flight. Price was the most important factor for selecting discount pricing airlines while schedule convenience was the most important factor for selecting premium pricing airlines. Airline

preference was ranked as the least important among them. They concluded that despite premium pricing airline had a better score for service quality, premium pricing and discount pricing carrier had the similar score of value for money. Pricing competition only would lead to a temporary market share gain, it would not develop and maintain customer loyalty.

Jiang and Zhang (2016) investigated the link between service quality, customer satisfaction and loyalty for the four largest airline companies in China, Air China, China Southern, China Eastern and Hainan Airlines, they discovered interesting phenomena. Ticket price was an important determinant for leisure travellers but not for business travellers; if the customer paid for the ticket themselves, their satisfaction level would be lower; customer loyalty was positively and significantly associated with customer satisfaction for leisure traveller, but not for business travellers. Loyalty programs or the frequent flyer programs was not successful to maintain customers' loyalty regardless they were business or leisure travellers.

Although the service quality, customer satisfaction, perceived value were the major constructs to the customer loyalty, the path from these independent variables to the dependent variable was under great discussion.

Koklic, Kukar-Kinney and Vegelj (2017) investigated the moderating effect, i.e. the type of airline companies (LCC vs. FSC) on two relationships: personnel quality-customer satisfaction and customer satisfaction-repurchase intention. They used airline tangibles, quality of personnel, customer satisfaction, intention to repurchase and intention to recommendation as constructs. They found that the satisfaction level, intent to travel again and recommendation of the airline to their acquaintances were higher for LCC airlines than those for FSC airlines.

Chen and Hu (2013) asserted that relational benefits, which was an additional benefit offered to customers, including confidence, social, special treatment and respect, was the moderator between service quality and customer loyalty in the airline industry. They concluded that if airline companies would like to earn customer loyalty, they had to provide relationship benefits to their customers.

Hapsari, Clemes and Dean (2017) found that customer engagement was the most influential factor through direct and mediation effect on customer loyalty of high-frills airline industry in Indonesia. Their engagement measures included sense of belonging to the brand, attention to the brand, passion and interest with the brand, sympathy with the brand, participation or interaction with the brand.

Customer satisfaction was ranked the second but it was the main driver for customer engagement along with perceived value and service quality through mediation effect.

Sandada and Matibiri (2016) examined the factors which caused customer loyalty in the Southern Africa airline industry. Factors of service quality, safety perception, customer satisfaction and subsequently satisfaction on frequent flyer programs were studied. They found that service quality affected the customer satisfaction, which in turn affected the customer loyalty positively. Safety perception and frequency flyer programs associated with customer loyalty directly, the relationship between them and the customer satisfaction was not significant.

2.2) Hypotheses Development

Despite extensive researches have discussed the direct effect, moderating and mediating effects of service quality, customer satisfaction and perceived value to customer loyalty in other parts of the world, there is lack of such research to cover the LCC airlines situation in Hong Kong, this research contributes its special value to Hong Kong airline industry. The following hypotheses are developed:

H1: There is a significant relationship between service quality and customer loyalty in Hong Kong LCC airlines.

H2: There is a significant relationship between customer satisfaction and customer loyalty in Hong Kong LCC airlines.

H3: There is a significant relationship between perceived value and customer loyalty in Hong Kong LCC airlines.

H4: The perceived value is the mediator between service customer satisfaction and customer loyalty in Hong Kong LCC airlines.

3) Methodology

3.1) Pilot Test

3.1.1) Sampling in the Pilot Test

Due to the time constraint, this paper used convenience sampling to collect 23 samples, 18 of them were DBA students in this course and the rest were friends of the writer of this paper. Therefore the sample was bias but still a good exercise to get practical experience with the real survey situation. This paper used the Qualtrics system to collect responses on-line.

3.1.2) Scale Development in the Pilot Test

This was a pilot test on the relationships among the following constructs: service quality, customer satisfaction, perceived value and customer loyalty. Service quality was sub-divided into personal service quality and non-personal service quality. Other constructs did not have subdivided measures. The sub-division of service quality into pre-flight, in-flight and post-flight service quality by Namukasa (2013) was not adopted due to lack of appropriate scales found during the short preparation period of this paper. The survey was divided into two sections, the first section collected respondents' socio-demographic characteristics, the second section gathered respondents' construct measures. Due to the time constraint and the nature of the pilot test, the survey mainly adopt the scales from Hapsari, Clemes and Dean (2017) and Sandada and Matibiri (2016) for their currency and comprehensiveness. A 5-point Likert scale was used, strongly disagree was 1 (the left end) while strong agree was 5 (the right end).

3.2) Main Survey

3.2.1) Sampling Method in the Main Survey

The target population is Hong Kong residents. Since random sampling is impossible or so costly for a social research, non-probability convenience sampling method will be used. Conducting a survey inside the Hong Kong International Airport will be the best choice, but getting an approval from the Hong Kong Airport Authority will be difficult. Therefore, the survey will be conducted in three busiest areas in Hong Kong, Causeway Bay, Mongkok and Shatin through a survey service provider. A small token of \$50 coffee shop coupon will be given to a successful respondent to show our courtesy. The survey will be conducted between 12:00 to 14:00 (busy hours), 16:00 to 18:00 (non-busy hours) and 1900 to 21:00 (busy hours) from Monday to Sunday in order to get a more complete sample which is expected to cover students, most working classes, retired people and household people, they may visit these three areas during different time of a day. 1,250 surveys are expected to collect and 1,000, 80%, of them is expected to be valid. The sample size of 1,000 is considered as excellent by Comrey (1973).

3.2.2) Scale Development in the Main Survey

In addition to adoption of scales used in other related researches, the main survey will also developed some scales to enhance the scales used in the pilot test and discover new variables of the causes of customer loyalty, or to be specific, the repurchase intention. A small focus group discussion revealed that there were rooms for improvement.

3.2.3) Focus group suggestions

3.2.3.1) Nominal scales

For the respondents' socio-demographic characteristics, the target population is Hong Kong residents with the following two validity criterion: 1) The age of the respondent is elder than 18 years old to avoid potential legal problem; 2) the respondent has consumed LCC services within last 24 months, otherwise their attitude may have changed since their last consumption. Only the latest experience will be surveyed if the respondent has flew more than one time with LCCs within the 24 months period to keep the currency of the information.

Some new nominal scales will be added to dig deeper from the data collected. These constructs will focus on: 1) Whether the respondent is an employee of any airline company. If the respondent is working in an airline company, his attitude may be biased. Employees may express negative attitude against their employer if they feel unsatisfied at work; full-service airline employees may make up some negative opinion against LCC airlines because they feel the threat from their competition, they do not want LCC airline to have good word-of-mouth for their job security purpose. It will have high research value to know what kind of attitude of airline company employees from both sides to comment the service quality of the other side. If a FSC airline company's employees travel by LCCs frequently, it may be a strong indicator of LCC airlines' super competitiveness. 2) The price paid by the respondent. If the respondent used any budget airline employee discount or loyalty program rewards to purchase the air ticket, it may affect the true feeling of the perceived value and his satisfaction too. 3) Who paid the ticket. It will affect the perceived value attitude and customer satisfaction (Jiang and Zhang, 2016). 4) Number of people the respondent travelled with. For a family travelling for leisure purpose, the more travelling members, the larger is the total saving amount. There may be a tendency that large family size will take LCCs more frequently. 5) Flight duration information is also important, the flight time is short, medium, long or ultra-long haul. 6) The name of LCC airline company will be required in order to improve the accuracy, because some respondents may not know what a LCC airline is. These seven nominal scales are not often observed in the literature, so new development may be needed. 7) Whether the passenger needs a special attention. Since the LCC flight schedule is usually not convenient and not on-time, passengers need special attention such as kids under 10 years old and seniors over 65 years old may be inconvenient to take LCCs, but we need more data to test this assertion. 8) The travel purpose questions contains 9 choices, 7 of them were related to the person(s) whom the respondent travelling with such as young

kids, old people, people needs special attention and special arrangement. For the sake of parsimony, these 7 choices will be combined into one like “Travel with at least one of family member who needs special care such as kid, old person, pregnant female, etc.”

3.2.3.2) Construct scales

In the focus group, one frequent air traveller has pointed out that there are two main reasons for taking LCCs, given that their flight schedule usually are not on time and the flight time is often not convenient, many LCC flights depart in the early morning or arrive the destination in late evening. The first reason is the attractive price. For example, the flight from Hong Kong to Singapore offered by Scoot, a Singapore LCC, is priced at HKD1,458 while Cathay Pacific, a Hong Kong FSC, is priced at HKD2,138, the difference is HKD680. Or the LCC's price is only 68.1% of the FSC (Skyscanner, 2019). The second is the point-to-point convenience, which FSC airlines may not be able to provide. This opinion suggests that the customer satisfaction and service quality provided by LCCs may not significantly matter, the more important constructs are the perceived value and point-to-point competitive edge. As a result, one more construct namely point-to-point competitive edge will be added if there are no existing ones in the literature. 5-point Likert scales such as “There are many flights which have the same departure point and destination point” and “This flight help me save a lot of time comparing to other possibilities” are considered useful to reveal the reason of purchase. For the perceived value construct, I would like to add a ratio scale similar to the one in Ostrowski, O'Brien and Gordon (1993). However, I will drop the loyal programme because there are many ways to earn points from the loyal program, such as making a purchase of goods from a designated shop or brand (Jiang and Zhang, 2016). The scales will include the importance of flight schedule convenience, point-to-point convenience, price of the ticket and airline preference in selecting flight etc. For the service quality and customer constructs, more scales such as pre-flight, in-flight and post-flight will be added to better capture the true attitude. Lastly, a 7-point Likert scale of a trade-off between price and loyalty such as “If the ticket price of another airline company is x% lower than the airline company you reported, you will change your airline company.” The scale of x% is: less than 5%, 10%, 15%, 20%, 25%, 30%, 35% or more. In addition, a deeper research will be done for the difference in customer loyalty and intention for repurchase.

As a result, the main survey will test whether the service quality has significant correlation with repurchase intention; whether the customer satisfaction has significant correlation with repurchase intention; whether the perceived value has significant correlation with repurchase intention.

Constructs contribution to the repurchase intention will be investigated through multivariate regression analysis. In addition to the above mentioned development of constructs, moderating and mediating effect are also needed to be handled in the main test.

4) Findings of the Pilot Test

Table 1
Pilot Survey Respondent Characteristics (n = 23)

Age (Mean / S.D.)	47.26 /	12.14
Sex: M (%) / F(%)	13 (57%) /	10 (43%)
Education (Frequency / %)		
High School	3 /	13.04%
Bachelor Degree	2 /	8.70%
Master Degree	17 /	73.91%
Doctoral Degree	1 /	4.35%
Occupation (Frequency / %)		
General working/office class	4 /	17.39%
Civil Servants / employees of government related organizations	5 /	21.74%
Professional	11 /	47.83%
Student	1 /	4.35%
Housewife	1 /	4.35%
Unemployed	1 /	4.35%
Annual Income (Mean / S.D.)	613,050 /	302,898
When did you take budget airline last time ? (x months ago, mean / S.D.)	23.478 /	14.69
Travel purpose (Frequency / %)		
Business	8 /	34.78%
Leisure alone	8 /	34.78%
Leisure with at least a family member who is under 12 years old	1 /	4.35%
Leisure with at least a family member who is between 56 -65 years old	0 /	0.00%
Leisure with at least a family member who is over 65 years old	0 /	0.00%
Leisure with at least a family member who is pregnant	0 /	0.00%
Leisure with at least a family member who needs special medical attention	0 /	0.00%
Leisure with at least a family member who needs the airline provide special assistance	0 /	0.00%
Leisure with at least a family member who does not belong to the above 6 categories	5 /	21.74%

4.1) Characteristics of Respondents

Table 1 showed the majority of the respondents were DBA students, they were characterized as mature with average age of 47.26 years old, a few youngsters were there as reflected by the standard deviation of 12.14 years. They were highly-educated, 73.91% of them had a master degree and 47.83% were working as a professional. Despite their average annual income was high at HK\$613,050, but the distribution was uneven as shown by the high standard deviation of HK\$302,898, it was caused by 2 outliers whose annual incomes were less than HK\$150,000. Their information provided on LCCs might not be updated as they took LCCs almost two years ago on average. One important finding was that only one out of twenty three respondents travelled with at least one family member who needed special attention, i.e. a kid under 12 years old in his case. This finding was a potential character of LCC passengers. However, more research and large sample size will be needed to investigate further.

4.2) Reliability Analysis

The reliability of the survey data was good, the Cronbach Alpha of each sub-group was above 0.8 as shown on Table 2, which was consider as a good indicator of the reliability. The correlations between items were high, they generally were above 0.4. However, the item of “The airline has a convenient flight schedule” had a relatively weak corrected item-total correlation with either the items in the sub-category of non-personal service quality or the overall service quality. It also had values of 0.871 and 0.918 of Cronbach’s Alpha if item deleted in these two categories. This item is a potential candidate for deletion as suggested by Grapentine (2015). After deletion of the item and following by the factor analysis method in the next section, the rotated component matrix indicated that there were only 3 items should be kept. This was not a good idea to do research with only three items. Furthermore, form the theoretical point of view, convenient flight schedule should be an important item for service quality, the deletion suggestion was dismissed.

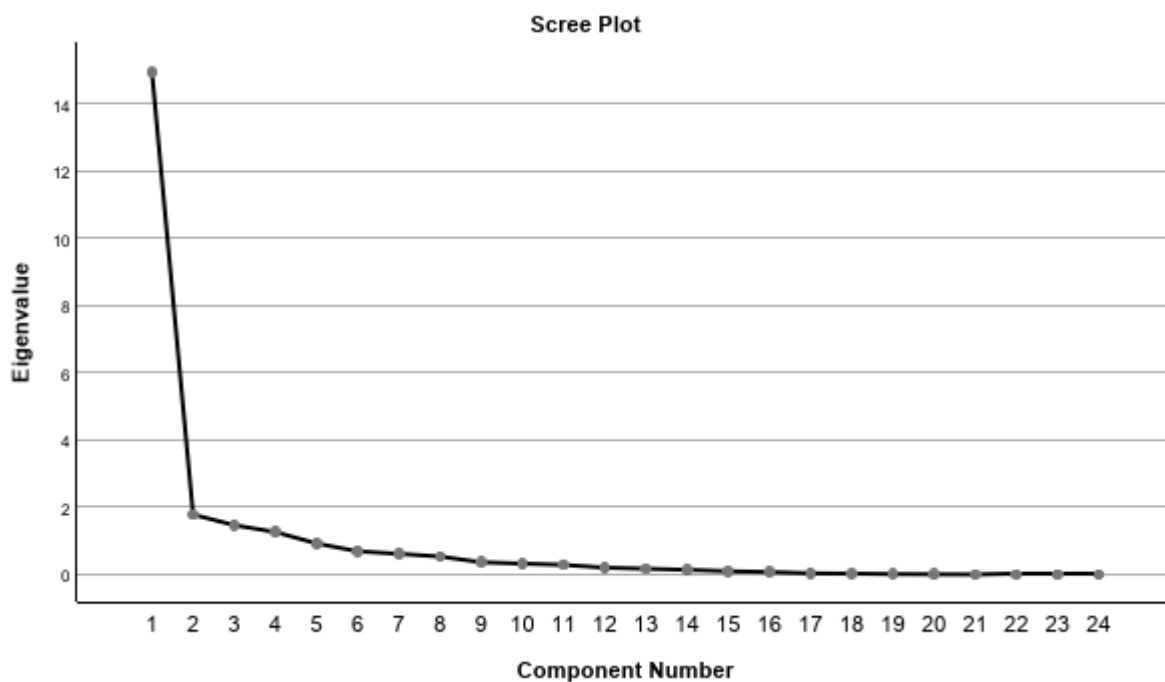
Table 2
Low-Cost-Carrier Airline Customer Loyalty

Constructs and Items	Mean	SD	Cronbach
			Alpha
Overall service quality	3.56	0.27	0.91
Non-personal service quality	3.49	0.30	0.89
1 Overall, the in-flight facilities in the airline are excellent	3.26	1.14	
2 The airline has a convenient flight schedule	3.35	1.27	
3 The airline has convenient reservation and ticketing systems	3.91	1.08	
4 I feel safe when I fly with the airline	3.74	1.10	
5 The airline offers excellent baggage handling services	3.13	1.18	
6 I rarely have to wait long to receive the airline service	3.52	1.04	
Personal service quality	3.66	0.69	0.83
7 The staff of the airline deliver superior services	3.48	0.79	
8 The employee attitude of the airline demonstrates their willingness to help me	3.91	0.73	
9 The employee attitude of the airline shows me that they understand my needs	3.78	0.80	
10 The airline employees are able to handle my complaints directly and immediately	3.48	0.85	
Satisfaction	3.65	0.20	0.93
11 I had a satisfying experience flying with the airline	3.74	0.92	
12 I did the right thing when I choose to fly with the airline	3.78	1.13	
13 I normally have a pleasant flight with the airline	3.78	0.74	
14 Overall, the airline provides a very satisfying experience	3.83	0.83	
15 I am satisfied with the airline's customer loyalty programmes	3.39	0.78	
16 I am happy with rewards offered by the reward programme	3.39	0.78	
Perceived Value	3.89	0.08	0.94
17 Considering the ticket price I paid for the airline, I believe that the airline offers excellent services	3.83	0.83	
18 Compared to what I have given up (including money, energy, time and effort), the overall service of the airline is excellent	3.83	0.83	
19 Overall, the airline offers good value for money	4.00	0.74	
20 Overall, the airline's services and goods are valuable	3.91	0.85	
Loyalty	3.53	0.06	0.96
21 I intend to say positive thing about the airline to other people	3.61	0.89	
22 I intend to fly with the airline again in the future	3.57	1.16	
23 I intend to encourage relatives and friends to fly with the airline	3.48	1.04	
24 Overall, given the other choices of airline companies, I will remain flying with the airline	3.48	0.95	

Items 1 to 24 were questions with 5-point Likert scales, 1 = strongly disagree and 5- strongly agree.

4.3) Factor Analysis

A principal components analysis with scree plot, Varimax with Kaiser Normalization rotated solution and suppressed factor loadings of less than 0.4 was processed. The pre-rotation result showed that there were 4 components with Eigenvalue greater than 1, but the first one with Eigenvalue of 14.96 dominated the others, which had Eigenvalues between 1 and 2. The scree plot below also drew the same conclusion.



However, the rotated component matrix indicated that there were 15 cross-loading items with factor loadings greater than 0.4 in more than one components. Therefore, these items were dropped and the factor analysis was rerun. After rerunning of the factor analysis, only one component remained. No further rotation was extracted because there was only one component left. The remaining items mostly came from service quality items, item 1, 2, 3, 5, 7, 8 and 9, only item 12 was in customer satisfaction construct and item 20 was in perceived value construct. The reliability test was redone and the new overall Cronbach Alpha decreased from 0.97 to 0.90, overall service quality Cronbach Alpha decreased from 0.91 to 0.86, non-personal service quality Cronbach Alpha also decreased from 0.89 to 0.79, while personal service quality Cronbach Alpha remained unchanged at 0.83. The Cronbach Alpha dropped slightly, but the interpretation was weak. Service quality, perceived value and customer satisfaction were correlated with the same underlying component, but there was no connection to the customer loyalty. This paper did not include a regression analysis for the contributions from service quality, customer satisfaction and perceived value to customer loyal constructs due to the small sample size.

5) Conclusion

Competition in the airline industry is fierce, especially between the FSC and LCC airlines. More and more air travellers are willing to substitute FSCs by LCCs, but the operation of LCC is currently in jeopardy because the price they charged may not be enough to cover their operating costs. Iceland LCC airline company went bankrupt in March (Reuters, 2019), how to earn customers' loyalty for LCC operators becomes more and more important. The aim of this research is to investigate what are the major factors which influence Hong Kong air travellers to select a LCC airline, through pilot testing the relationships between service quality-loyalty, customer satisfaction-loyalty, perceived value-loyalty of LCC airline customers and developing a more sophisticated test model for these relationships.

During the pilot test, descriptive analysis of the nominal items, reliability test and factor analysis of the service quality, which was subdivided into personal and non-personal service quality; customer satisfaction, perceived value and customer loyalty were done. A principal components analysis with scree plot, Varimax with Kaiser Normalization rotated solution and suppressed factor loadings of less than 0.4 was completed was processed. At the last stage, 15 out of 24 survey items were dropped and the finding was service quality, perceived value and customer satisfaction were correlated with the same underlying component, but the major problem was all loyalty items were excluded. The theoretical logic seemed not convincing. Small sample size with significant sample bias was to blame as the underlying cause of such result. This is the major limitation of this paper. No regression analysis was developed for the correlation of the hypotheses because of the same reason.

Suggestions were made to improve from the pilot test through a focus group discussion, number of enhancements such as fine tuning the sampling method and respondents' background, adding more service quality and perceived value items into the survey, specifying the loyalty as repurchase intention and further investigating into the mediation and moderation effects between the four constructs were proposed. Based on the replicable principle, it is worth to repeat the whole factor analysis process again on an independent sample to test if the result is only a random chance (DeVellis, 2012). After these actions, a multivariate regression analysis will be processed to further explore the contributions from the independent constructs to the dependant constructs. The paper is expected to have meaningful value added to the LCCs related literature.

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