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Inflight Service Quality of Malaysia Airlines: Validation Using SEM and AMOS

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ABSTRACT
This study analysed Malaysia Airlines' inflight service quality (IFSQUAL) from the perception of passenger satisfaction because it was important to know passenger's quality perception regarding the airline's quality improvement. A total of 2,000 complete questionnaires were successfully compiled to build a sampling frame, and a total of 282 questionnaires were selected using a simple random sampling technique, which was one of the probability sampling methods. The data were analysed using the IBM-SPSS Amos 23.0 software. The latent construct measurement model had been validated through the Confirmatory Factor Analysis (CFA) procedure, and developed 30-item scale based on 4 distinct dimensions: Personal Attributes, Flight Safety, Inflight Service, and Passenger Satisfaction. The finding of Structural Equation Modelling (SEM) showed that approximately 93% of the variance in Passenger Satisfaction was accounted for with the predictors (R^2=0.930). The direct and indirect (mediation) hypothesis testing had been verified with bootstrapping with 1000 samples, and 95% confidence level. Results revealed; five hypotheses were significant on the direct effect, and two mediation effects were not significant. We were able to identify the gap of this study; inflight service quality was not a 'quick-fix', and thus had to be approached from a long-term perspective.
Keywords: Airline, Inflight Services Quality, Passenger Satisfaction, SEM, AMOS

INTRODUCTION

Air transportation plays an important role in moving people, or products fast from one place to another either domestically or internationally. Airline industry is also at the heart of the travel and tourism industry, and is the main contributor to many countries' overall economy through international tourist arrivals (Oyewole et al., 2007; Zahari et al., 2011; Norazah, 2014; Rahim, 2016; Rose et al., 2016). The positive development of the travel, and tourism industry has created great competition among the large and small airline companies for passenger satisfaction (Pincus 2001; Jankalová, 2016; Rose et al., 2016). Broad marketing with a full range of innovative strategies can exploit to the fullest advantage through its quality inflight service in inflight entertainment, cabin facilities, flight safety policy and its competent flight attendant.

This study aims to introduce the system of measuring the inflight service quality (IFSQUAL) from passenger's perspective; hence it is imperative to deal with this issue for passenger satisfaction. The IFSQUAL falls under the airline's product and inflight service excellence. To measure it is

more often being mentioned as part of the corporate practice, but it also being done at the theoretical level (Jankalová, 2014; Giovanis, et al., 2015; Ranaweera & Sigala, 2015). The situation in the area of measuring it is quite different from multinational institutions, non-profit, and public organisations. We assume that passenger's perception of IFSQUAL includes more than mere satisfaction from the provided service as derive from the passenger's perspective on their disadvantages or inconveniences (Zeithaml et al., 2013; Jankalová, 2016; Rose et al., 2016), which perceive that passenger's opinion is affected also by the way her/his request is received, method of timing for the need of satisfaction, clarity and willingness, accuracy, and punctuality of dealing with the requests.

Juran (1974) coins quality as 'fitness for use' in user-based approach. Crosby (1979) interprets quality as 'conformance to requirements' in manufacturing-based approach. There are five main approaches that identify the definition of quality (Garvin, 1984; Yarimoglu, 2014; Jankalová, 2016):

1. The transcendent approach of philosophy; according to the transcendent view, quality means 'innate excellence'. It is a mark of uncompromising standards and high attainment, which can be recognised only through experience.
2. The product-based approach of economics, which quality is perceived as 'a precise and measurable variable' and variances in quality reflect differences in the quantity element, or attribute, so that better quality can only be obtained at a higher cost.
3. The user-based approach of economics, marketing, and operations management; quality is associated with the satisfaction. The supreme quality means the best satisfaction of consumers' preferences.
4. The manufacturing-based; defined quality as 'making it right the first time'. This is a supply based and concerned with engineering and manufacturing practice. The airline is also involved in engineering to ensure its aircrafts are airworthy.
5. Value-based approaches of operation management; defined quality in terms of cost and price. Usually perceived as a function of price.

Another categorisation of approaches to defining inflight service quality:

1. Perceived quality vs. objective quality:
   - Passenger does not use the term of quality in the same way as researchers and marketers do; they define it conceptually (the conceptual means distinguishes between mechanistic and humanistic quality) (Garvin, 1983; Dodds & Monroe, 1984; Holbrook & Corfman, 1985; Jacoby & Olson, 1985; Zeithaml, 1987; Rose et al., 2016).
   - Mechanistic quality involves an objective aspect or feature of a thing or event, humanistic quality involves the subjective response of flight attendant towards objects, and is therefore a highly relativistic phenomenon that differs between judges (Holbrook & Corfman, 1985; Jankalová, 2016).
2. Quality as attitude: The importance of the inflight service quality as an overall evaluation is similar to attitude (Olshavsky, 1985; Parasuraman et al., 1985; Jankalová, 2016).
3. Quality vs. satisfaction: Perceived inflight service quality is a global judgment, or attitude,

relating to the superiority of the inflight service, whereas satisfaction is related to a specific transaction (Howard & Sheth, 1969; Hunt, 1979; Oliver, 1981; Jankalová, 2016; Rose et al., 2016).

4. Expectations compared to perceptions: Perceived inflight service quality is therefore viewed as the degree and direction of discrepancy between passenger's perceptions and expectations (expectations can be viewed as passenger's desires/wants, merely what s/he feels the airline should offer rather than would offer (Sasser et al., 1978; Grönroos, 1982; Lehtinen & Lehtinen, 1982; Parasuraman et al., 1985; Jankalová, 2016; Rose et al, 2016).

In the universal quality methods; present competitive environment can aid measuring systems taking into account the environment of inflight service provision and individual quality of the flight attendant (Zeithaml et al., 2013; Yarimoglu, 2014; Rose et al., 2016), which both the co-existence and inconsistency of individual approaches to defining the concept of IFSQUAL gradually can bring the need to determine the quality dimensions of inflight service.

There are some major differences about inflight service, flight safety policy, and product. The nature of inflight service is intangible whereas product is tangible, and policy of flight safety is tangible (Edkins & Coakes, 2007; Sengupta, 2011; Yang & Chang, 2012; Oster et al., 2013; Rose et al., 2016). Since inflight service is intangible, measurement of IFSQUAL can be more complicated because IFSQUAL is measuring all at the same time (Zeithaml et al., 2013; Rahim, 2016; Rose et al., 2016). IFSQUAL measures how much the inflight service being rendered meets the passenger satisfaction. In order to measure the intangible quality of inflight service; the term 'perceived' is commonly used by researchers (Parasuraman et al., 1985; Yarimoglu, 2014; Rose et al., 2016). Perceived IFSQUAL is a result of the comparison of perceptions about inflight service delivery process and the actual outcome of inflight service (Grönroos, 1984; Wirtz et al., 2012; Jankalová, 2016; Rose et al., 2016). Sweeney et al. (1997), Jankalová (2016), Rose et al. (2016) analysed whether service quality in service encounter stage affects perceived value and consumer willingness to buy; as a result of the study, they found that service quality perceptions in service encounter stage affects consumers more than product quality. Rahim (2016), Rose et al. (2016), and Sandada and Matibiri (2016) mention, due to increasing competition in the market has led many airlines to consider quality as a strategic tool. IFSQUAL is becoming more important and the airline should improve its inflight service to gain sustainable competitive advantage, passenger satisfaction, and loyalty (Rahim, 2016; Rose et al., 2016; Sandada & Matibiri, 2016). In extant literature shows that passengers who are dissatisfied with inflight service spread their experiences to more than three other people (Chinunda, 2013; Jankalová, 2016; Rose et al., 2016). Not everyone will identify with that kind of perception, but airline should realise that it will not achieve business excellence without the constant cycle of measuring the quality of its own inflight service (Shewhart, 1931; Vincoli, 2014).

METHOD

Malaysia Airlines was the unit of analysis, and passengers were the survey respondents of this study (Awang, 2014; Trochim et al., 2015). We selected Malaysia as the country to be investigated, and the airline industry as the organisation to be examined. This airline had registered with Department of Civil Aviation Malaysia for air/ground operator certification. It comprised of international passengers who had at least travelled once in the last 12 months arrived at Kuala Lumpur International Airport (KLIA), which meant the participants had a clear view about airline(s) inflight service. We chose KLIA because it was the main international airport that handled international flights in Malaysia. Observed the precise and specific scope of the above, the target population of the study were: (1) All international flights above 6 hours only; as these flights served more than one meal service per flight. Those flights were from London, Melbourne, Sydney, Adelaide, Jeddah, Narita, Incheon, and Beijing; because passengers were able to experience more from these flights; (2) Arrived at KLIA on Malaysia Airlines only (not from all airlines in the world); (3) At KLIA only (not at any other airports).

Population and Sampling

The average number of total passengers travelling with this airline was about 50,000 on 360 flights a day (Malaysia Airlines, n.d.). The next level was to select the group of international passengers from which the sample was actually selected, and termed as the sampling frame (Awang, 2014; Trochim et al., 2015). The sampling frame was identical to the target populating since it was desirable that all passengers of the target population were potential passengers, or the sample. The sampling frame for this research comprised all passengers travelling with Malaysia Airlines and arriving from international flights during two months' period of February and March 2015. We expected approximately 30% of the distributed questionnaire to be completed, and returned within four months after the survey distributions were completed.

Questionnaire

We distributed 2,000 questionnaires on 40 selected flights at a rate of 50 questionnaires for each flight directly to passengers who agreed to contribute in the study (refer to Table 1). Though questionnaires were distributed to those passengers who agreed to participate, only 915 questionnaires were returned giving the response rate of 45.75%. After careful scrutiny of the data, the completed questionnaires were coded and statistically analysed. Sample size of 900 (45%) was retained for further analysis on the random sampling by using SPSS 23.0. The excluded questionnaires were either inaccurate or incomplete responses.

Table 1: Collecting Data on Selected Flights of the Eight Weeks

Flight	1st	2nd	3rd	4th	5th	6th	7th	8th
London	*		*	*		*	*	
Melbourne	*		*	*		*	*	
Sydney	*		*	*		*	*	
Adelaide		*		*	*		*	*
Jeddah	*	*			*		*	*
Narita	*	*	*		*			*
Incheon		*	*		*	*		*
Beijing		*		*	*	*		*

Sampling

In the case of this study, because of the mobile and polarised passengers on the jet plane there was no proper sampling frame for the specific available passengers, hence the study had to develop the sampling frame for this purposes. We distributed questionnaire randomly to 50 incoming passengers per flight at KLIA. The obtained responses of 2,000 samples were listed into a grand list of passengers, and then the study employed the probability random sampling procedure to obtain a random sample of 282 passengers from the sampling frame for this study (Awang, 2014; Hair et al., 2015; Trochim et al., 2015), sampling design helped this study to understand easily the research process, and to analyse data.

Sampling Design

Sampling was the selection of a subset of cases of the total number of units in order to be able to draw general conclusions about the entire body of units (Babbie, 2013; Awang, 2014; Trochim et al., 2015). We selected an appropriate method of sampling to generalise results, especially when the population was very large (Babbie 2013; Awang, 2014; Hair et al. (2015). It was considered unusual if this study were to survey a big total of population because this research type was cross-sectional; as it had to comply with airline's policy; had to comply with KLIA's policy; had financial constraints and time limit.

Sample for heterogeneities were to include all opinions, or views (Takeuchi, 2008; Tashakkori & Teddlie, 2010; Awang, 2014; Trochim et al., 2015). Awang (2014), and Trochim et al. (2015) mentioned that in many brainstorming, or nominal group processes (including concept mapping), heterogeneity sampling were used because the primary interest was in getting broad spectrum of ideas, not identifying the 'average' or 'modal instance' ones, in fact, the sampling was not about people, but ideas. Indeed and undoubtedly, in order to get all of the ideas, and especially the outlier or unusual ones, broad and diverse ranges of participants were included (Hair et al., 2015; Trochim et al., 2015; Bakar & Afthanorhan, 2016). That was the reason 2,000 questionnaires were distributed to eight international flights.

Sample Size for Structural Equation Modelling (SEM)

There were many approaches, including a number of different formulas, for calculating sample size. To employ SEM in this study there was no clear-cut answer of how many number of respondents should be obtained because every research differs (among other things) in terms of the population characteristics, and the number of constructs that were employed in a model (Tanaka, 1993; Awang, 2014; 2015; Hair et al., 2014; 2015).

Research Instruments (Questionnaire Design)

This study's questionnaire comprised of two main sections and took approximately eight minutes to complete. In answering the questions, respondents were required to circle the most suitable answer on the scale. The questionnaire was in English because it was an international language, using simple, and direct question. The intention was to keep the questionnaire simple, so that it would not take too much of the respondent's time (Parasuraman et al., 1988; Awang, 2014; Trochim et al., 2015). It was a 2-page questionnaire to keep in environmentally responsible and user friendly way. In the questionnaire survey the 7-point Interval scale was employed, which was possible to be quantified in the research, and to see two different contraries (Likert, 1932; Parasuraman et al., 1985; 1988; Pitt et al., 1995; Johns, 2010; Losby & Wetmore, 2012; Sekaran & Bougie, 2013; Awang, 2014; Trochim et al., 2015).

Section A: Focused on respondent's profile, there were seven questions.
Section B: Refer to Appendix A

a) This section focused on personal attributes as an independent variable. Initially, there were 10 questions before exploratory factor analysis (EFA); the questions were measuring the respondent's acknowledgement of the personal attributes aspects of the flight attendant, which they observed and experienced during their journey. Those characteristics were obvious in IFSQUAL because the flight attendant had attended various training programmes as their on-going personal development. This section measured the respondent's agreement towards flight attendant's personal attributes throughout the flight.

b) The questionnaire was measuring flight safety as another independent variable. Initially, there were 10 questions; the questions were measuring respondents' understanding of the existence of the flight safety as it was considered to be important to the extreme of humans, things or situations in the form of policies. This section measured the respondent's understanding and awareness of the flight safety during their journey.

c) This questionnaire focused on inflight service, as the mediator. Initially, there were 10 questions; the instruments for this section were created from a comprehensive literature review and training manuals, hypotheses, and researcher's working experience as a flight attendant. This section measured the respondent's perception of the inflight service offered by the airline.

d) The questionnaire focused on passenger satisfaction as dependent variable towards the overall quality from passenger expectation and experience. Initially, there were 10 questions; the questions were influencing respondent's knowledge. The instruments for this section were created from a comprehensive literature review, from researcher's working experience as she received face-to-face feedback from passengers during flight, and her observation when travelled with other airlines. This section influenced, and measured the respondent's feedback about the airline's products, inflight service and their awareness of flight safety.

Measurement of Construct

Essentially, too few items would not capture the construct, but too many items would tire the subject, who would either not answer the items or would not answer them carefully (Pett et al., 2003; Sekaran & Bougie, 2013; Awang, 2014; Trochim et al., 2015). Babbie (2013), Sekaran & Bougie (2013), and Trochim et al. (2015) mentioned that most researchers made the mistake of asking too many questions, which was the greatest enemy in survey research that caused poor response rate. They suggested clear and concise questionnaires to get the best response. They continued to explain that in determining the number of items that was initially needed to be included in an instrument, researchers must consider the format of the item, time availability of the subject, and the characteristics of the population from the data to be gathered. This study employed its survey instruments designed by extant researchers. They were the prominent researchers in service quality, and had designed instruments to measure items associated with personal attributes, flight safety, inflight service, and passenger satisfaction. Hence, we adapted and customised their items below to suit with our study, which were verified and validated by two experts on the content for the content validity (Awang, 2014).

Parasuraman et al. (1985) analysed the dimensions of service quality, which offered an important framework for defining and measuring service quality. Parasuraman et al. (1985) developed the GAP Service Quality Model through the findings from exploratory research. The GAP relations and names were shown below (Parasuraman et al., 1985; Wirtz et al., 2012; Saglik et al., 2014; Yarimoglu, 2014):

GAP1: Customer expectation-management perceptions gap (the Knowledge Gap).
GAP2: Management perception-service quality specifications gap (the Policy Gap).
GAP3: Service quality specifications-service delivery gap (the Delivery Gap).
GAP4: Service delivery-external communications gap (the Communications Gap).
GAP5: Expected service-perceived service gap (the Service Quality Gap).

Haywood-Farmer (1988) discussed his service quality model comprising of three basic attributes, which the model associated with Parasuraman et al.'s Service Quality Determinants (1985). Parasuraman et al. (1988) develop simplified SERVQUAL, which was an advanced model for measuring service quality. In SERVQUAL model there were 5 dimensions and 22 items presented in 7-point Likert scale. SERVQUAL measured especially functional service quality through empirical studies in banking, credit card, repair and maintenance, and long-distance telephone services, which had been adopted/adapted by other researchers for other types of

studies (Haywood-Farmer, 1988; Bari et al., 2001; Saglik et al., 2014; Yarimoglu, 2014; Debasish & Dey, 2015).

Cronin and Taylor (1992) developed SERVPERF, which was a performance-only model for measuring service quality with empirical studies in banking, pest control, dry-cleaning, and fast food sectors. They developed a service quality scale dimensions of expectation (22 items-same as SERVQUAL), performance (22 items-same as SERVQUAL), importance (22 items-same as SERVQUAL), future purchase behaviour (1 item), overall quality (1 item), and satisfaction (1 item), which were measured by 7-point semantic differential scale. Performance-based SERVPERF scale and the gap-based SERVQUAL scale could measure service quality (Parasuraman et al., 1988; Cronin & Taylor, 1992; Saglik et al., 2014; Yarimoglu, 2014; Alotaibi, 2015; Debasish & Dey, 2015).

Bari et al. (2001) discussed airline service quality (AIRQUAL) model including five basic attributes. To achieve their goal they followed two important methods; the first method was the sequence of 8 steps presented by Churchill (1999). Secondly, the AIRQUAL was also associated with SERVQUAL instrument revealed by Parasuraman et al. (1988) that were based on Perceptions–Expectations, which was known as a disconfirmation Paradigm (Alotaibi, 2015). Table 2 was analysed to adapt and customise the items in our study.

Table 2: Dimensions of Service Quality Models

Study	Model	Dimension
Parasuraman et al., 1985	GAP Model	Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Understanding/Knowing the Customer, Tangibles
Haywood-Farmer, 1988	Service Quality Attributes	Physical facilities, processes and procedures; People behaviour and conviviality; Professional judgment
Parasuraman et al., 1988	SERVQUAL	Tangibles, Reliability, Responsiveness, Assurance, Empathy
Cronin & Taylor, 1992	SERVPERF	Same as SERVQUAL but with performance only statements
Bari et al., 2001	AIRQUAL	Airline tangibles, Terminal tangibles, Personnel, Empathy, Image
Rahim, 2016	Service Quality	Reliability, Responsiveness, Assurance, Customisation, Employees, Facilities, Flight patterns, Passenger satisfaction, Customer loyalty
Rose et al., 2016	Inflight Service Quality	Personal Attributes, Inflight Service, Flight Safety, Customer Satisfaction

RESULTS & DISCUSSION

This study applied the two-steps approach of modelling and analysing the structural model namely Confirmatory Factor Analysis (CFA) and SEM. According to Hair et al. (2014), Awang (2015), and Byrne (2016) the measurement model of latent constructs must pass three types of validity: (1) Construct Validity was assessed through Fitness Indexes of the Measurement Model; (2) Convergent Validity was assessed through Average Variance Extracted (AVE); (3) Discriminant Validity was assessed through the Discriminant Validity Index Summary. As for the reliability, it was assessed though the Composite Reliability (CR). The CR replaced the Internal Reliability measurement using Cronbach's Alpha as this study was analysing using SEM, and the latent construct was considered valid when fitness indexes achieved the three Model Fit categories (see Table 3) (Awang, 2014; 2015; Hair et al., 2014; 2015; Bakar & Afthanorhan, 2016; Byrne, 2016; Hoque et al, 2017).

We simplified the analyses by converting the second order construct into first order by taking the composite mean for every sub-construct. Afthanorhan et al. (2014), Hair et al. (2014), Awang (2015), Byrne (2016), and Hoque et al. (2017) mentioned that prior to modelling the structural model and executing SEM, researcher must prove that all constructs involved in the model were discriminant of each other, or they were not highly correlated especially between the exogenous constructs; if the two exogenous constructs were highly correlated (correlation coefficient greater than 0.85), then a serious problem called Multi-collinearity occurred. Following the above theory by them, the two exogenous (Personal Attributes and Flight Safety), mediation (Inflight Service), and endogenous (Passenger Satisfaction) constructs in the model became second-order constructs with certain number of sub-constructs and every sub-construct was measured using certain number of items from the questionnaire.

Pooled Measurement Model for All Constructs

For this procedure, all constructs were combined together and executed the Pooled-CFA; the conversion was carried out by computing a single composite mean for items in every sub-construct of the measurement model (Afthanorhan et al., 2014; Awang, 2015; Byrne, 2016; Bakar & Afthanorhan, 2016; Hoque et al, 2017). Figure 1 demonstrated the initial measurement model for each construct in the Pooled Measurement model.

In Figure 1, the fitness indexes did not meet the required level as proposed by Afthanorhan et al. (2014), Hair et al. (2014), Awang (2015), Byrne (2016), and Hoque et al. (2017); in order to remedy this problem, they suggested researcher must inspect the poor factor loading items, and remove them from the model (one item at a time from each sub-construct and re-analyse the CFA); the process continued until the measurement model achieved the threshold values. We identified eight poor factor loading items less than 0.6 namely IFSQ1 (0.17), IFSQ5 (0.20), IFSQ6 (0.23), IFSQ10 (0.33), PAX7 (0.37), PAX1 (0.53), PAX2 (0.54), and PAX6 (0.57). These poor items had caused the model to be unfit. In Figure 2, the Fitness Indexes readings were good and fit after several procedures, and the significance level for coefficients was $p<0.001$, see Table 3.

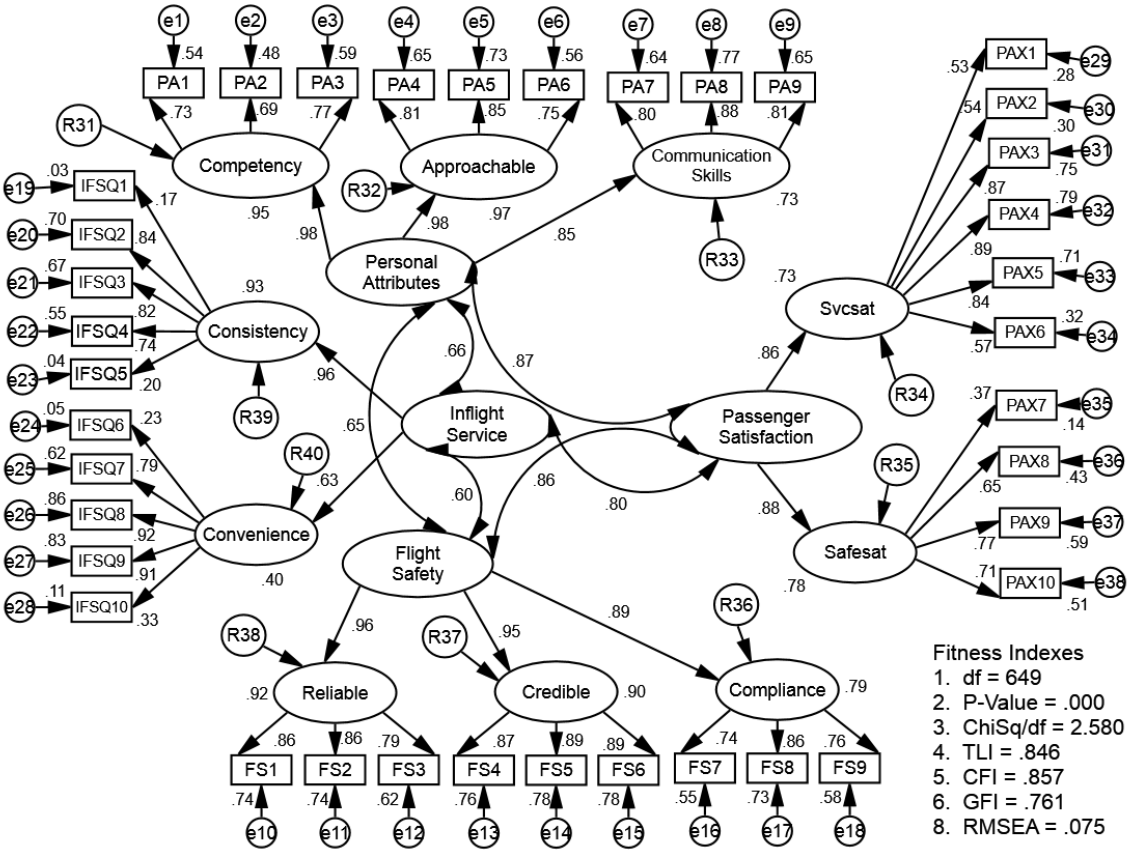

Figure 1: The Initial Measurement Model

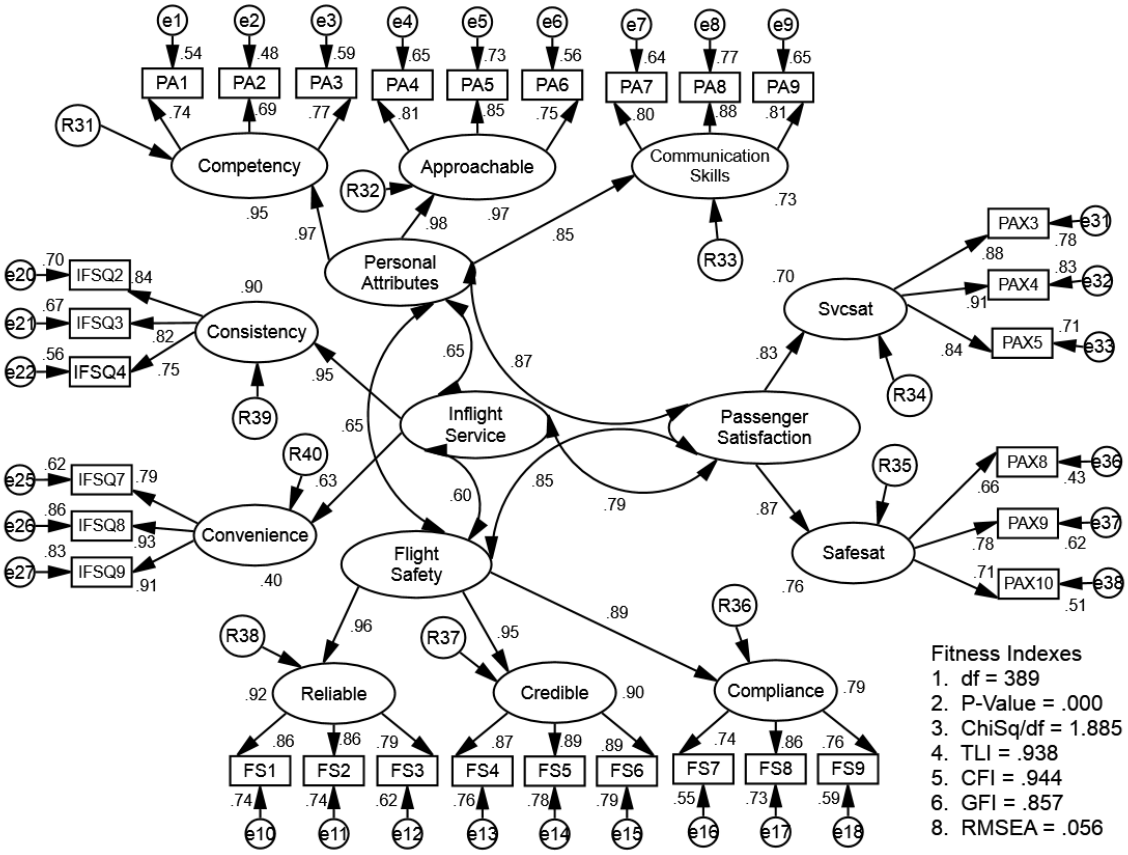

Figure 2: The Final Measurement Model after PAX6 was removed

Assessment for Validity and Reliability

After few CFA procedures, the measurement model results were as follows:

a) Construct validity (Table 3). The fitness indexes as the constructs had achieved the required level (Afthanorhan et al., 2014; Awang et al., 2015; Byrne, 2016; Hoque et al., 2017).

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Table 3: Construct Validity

Category	Model Fit Result		Fit Criteria	Reference	Acceptable
Absolute Fit Index	**RMSEA**	0.06	Range 0.05 to 0.1	Hu & Bentler, 1999; Awang, 2015; Byrne, 2016	Yes
	GFI	0.86	Close to 0.95	Jöreskog & Sörbom, 1996; Awang, 2015; Byrne, 2016	Yes
Incremental Fit Index	AGFI	0.83	Close to 0.95	Jöreskog & Sörbom, 1996; Awang, 2015, Byrne, 2016	Yes
	CFI	0.94	Close to 0.95	Hu & Bentler, 1999; Awang, 2015, Byrne, 2016	Yes
	NFI	0.89	Close to 0.95	Hu & Bentler, 1999; Awang, 2015, Byrne, 2016	Yes
	TLI	0.94	Close to 0.95	Hu & Bentler, 1999; Awang, 2015, Byrne, 2016	Yes
Parsimonious Fit Index	**ChiSq/ df**	1.885	Below 5.00	Hair et al., 2014; Awang, 2015, Byrne, 2016	Yes

NB: The indexes in bold were recommended since they were frequently reported in literature (Awang, 2015).

b) Convergent validity. All items in measurement model were statistically significant. The convergent validity was also verified by computing AVE and CR (Table 4) for every construct. Afthanorhan et al. (2014), Hair et al. (2014), Awang (2015), Byrne (2016), and Hoque et al. (2017) agreed that the values of AVE should not less than 0.5, and CR should not less than 0.6; low result could affect low AVE and CR; as both were computed based on the factor loading.

Table 4: AVE and CR for the main constructs

Construct	Component	Factor Loading	AVE	CR
Personal Attributes	Competency	0.97	0.87	0.95
	Approachable	0.97		
	Communication Skills	0.85		
Flight Safety	Reliable	0.96	0.86	0.95
	Credible	0.95		
	Compliance	0.89		
Inflight Service	Consistency	0.95	0.66	0.78
	Convenience	0.63		
Passenger Satisfaction	Service Satisfaction	0.83	0.70	0.84
	Safety Satisfaction	0.87		

C) Discriminant validity (Table 5). This study model was free from redundant items. The diagonal values in bold were the square root of AVE, which was higher than the values in its row and column, thus the discriminant validity had achieved the required level (Afthanorhan et

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al., 2014; Hair et al., 2014; Awang, 2015; Awang et al., 2015; Byrne, 2016). While other values were the correlation between the respective constructs.

Table 5: Discriminant Validity Index Summary

Constructs	Personal Attributes	Flight Safety	Inflight Service	Passenger Satisfaction
Personal Attributes	**0.93**			
Flight Safety	0.65	**0.93**		
Inflight Service	0.65	0.60	**0.81**	
Passenger Satisfaction	0.87	0.85	0.79	**0.84**

Table 6 was the hypotheses results of the direct effects between the constructs (see Figure 3).

Table 6: Regression Weights and Its Significance

Test	Construct	Direct Effect	Construct	Estimate	Std. Error	Critical Region	P-Value	Supported
H1	Inflight Service	←	Personal Attributes	**0.46**	0.096	4.825	0.001	Yes
H2	Passenger Satisfaction	←	Personal Attributes	**0.38**	0.068	5.487	0.001	Yes
H3	Inflight Service	←	Flight Safety	**0.29**	0.084	3.498	0.001	Yes
H4	Passenger Satisfaction	←	Flight Safety	**0.35**	0.060	5.814	0.001	Yes
H5	Passenger Satisfaction	←	Inflight Service	**0.22**	0.065	3.377	0.001	Yes

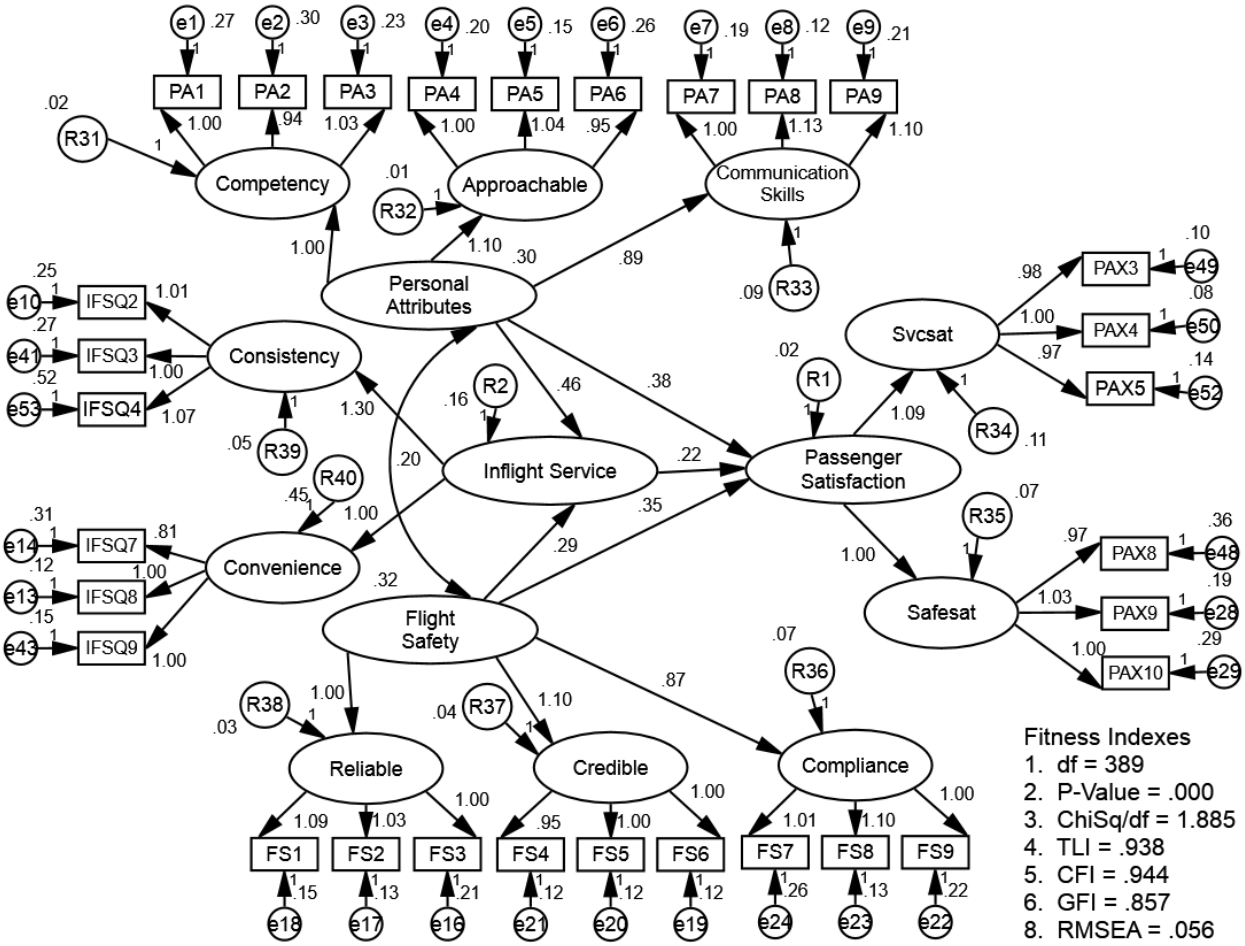

Figure 3: Regression Weights

Table 7 was the mediation hypotheses results; the analyses were computed from Figure 3, using AMOS:

Table 7: Bootstrapping Summary of Mediation Effect (H6 & H7)

Path		Indirect Effect	Direct Effect
Personal Attributes to Passenger Satisfaction (H6)	Bootstrapping Results	0.118	0.435
	Bootstrapping P-Value	0.003	0.004
	Result	Not Supported	Supported
	Type of Mediation	No Mediation (Not Supported)	
Flight Safety to Passenger Satisfaction (H7)	Bootstrapping Results	0.077	0.415
	Bootstrapping P-Value	0.007	0.001
	Result	Not Supported	Supported
	Type of Mediation	No Mediation (Not Supported)	

H6: Inflight Service mediates the relationship between Personal Attributes and Passenger Satisfaction – Not Supported (refer Table 7). Results indicated that Inflight Service was not a significant mediation predictor of Personal Attributes, □ = 0.376, SE = 0.068, p<0.05; but Inflight Service was a direct predictor of Passenger Satisfaction, □ = 0.221, SE = 0.065, p<0.05. The result was not significant; thus it did not support the mediation hypothesis. Personal Attributes was still a direct, and significant predictor of Passenger Satisfaction after it was controlled by the mediator (Inflight Service), □ = 0.118, SE = 0.060, consistent with No Mediation (Kafaji, 2013; Osman & Sentosa, 2013; Hair et al, 2014; Awang, 2015; Byrne, 2016; Rahim, 2016).

H7: Inflight Service mediates the relationship between Flight Safety and Passenger Satisfaction – Not Supported (refer Table 7). Results indicated that Inflight Service was not a significant mediation predictor of Flight Safety, □ = 0.345, SE = 0.060, p<0.05. The result was not significant; hence the result did not support the mediation hypothesis. Flight Safety was still a direct, and significant predictor of Passenger Satisfaction after it was controlled by the mediator (Inflight Service), □ = 0.077, SE = 0.045, consistent with No Mediation (Kafaji, 2013; Osman & Sentosa, 2013; Awang, 2015; Byrne, 2016; Rahim, 2016).

CONCLUSION

Approximately 93% of the variance in Passenger Satisfaction was accounted for by the predictors; the coefficient of determination, or R-Square (R^2) for the model was 0.93. (R^2=0.930); the direct and indirect effects were tested using bootstrap estimation approach with 2,000 samples, and 95% of confidence level (Hair et al., 2014; Awang, 2015; Byrne, 2016). Hence, the value implied in the model, which comprised of two exogenous constructs and one mediator namely Personal Attributes, Flight Safety, and Inflight Service managed to estimate 93% of the information in Passenger Satisfaction (Hair et al., 2014; Awang, 2015; Byrne, 2016).

'Supported' and 'not supported' assumption results: (1) Personal Attributes dimension was the flight attendant's characteristics – her/his soft skills and technical skills in IFSQUAL were built from the sequence of training programmes that s/he had been attended, and also the knowledge and experience from day-to-day work. Though flight attendant was the airline product but her/his appearance, personality, knowledge, dedication, decision-making, and leadership skills in delivering IFSQUAL might not be similar to her/his peers, hence this Personal Attributes dimension could only be a direct effect to the passengers who recognised and understand the 'transcendent approach', which will definitely mark their satisfaction level according to how they consumed the IFSQUAL (Garvin, 1984; Zeithaml et al., 2013; Jankalová, 2016; Rose et al., 2016). Consequently, an Inflight Service could not mediate this human skills and tacit knowledge. (2) Flight safety dimension was a policy, thus it could not be mediated by Inflight Service, because the policy could not be adjusted simply to suit the passenger emotional needs during her/his journey. Policy was a principle of action; it was implemented and approved by the Department of Civil Aviation Malaysia, airline's own policy, international association such as International Air Transport Association (IATA), and International Civil

Aviation Organisation (ICAO) for the safety of the people on board, and the aircraft (Crosby, 1979; Yang & Chang, 2012; Baker, 2013; Jankalová, 2016; Rose et al., 2016; Sandada & Matibiri, 2016).

We had discussed in detail the statistical analysis of the findings generated from the passenger survey at KLIA. From the demographic analysis, we would like to give an advice that these results were not being fully generalisable to the population of all air travellers globally. This quantitative research had produced hypotheses, and developed understandings about particular groups through sampling. This sampling involved in making a series of decisions not only about how many individuals to include in a study and how to select these individuals, but also about the conditions under which the selection was done; and the story was from the participant's standpoint (Kafaji, 2013; Awang, 2014; Hair et al., 2015; Al Zefeiti & Mohamad, 2015; Ngo & Nguyen, 2016; Rahim, 2016).

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APPENDIX A

Types of Statistical Analyses of the Study

Construct	Item	Scale
Section A		
Respondents' profile	Gender, age, education level, occupation, number of times travelling with any airlines, travelling class, and reason for choosing Malaysia Airlines	Descriptive Analysis
Section B		
Personal Attributes	1. Flight attendant is efficient 2. Flight attendant is competent 3. Flight attendant is confident 4. Flight attendant is approachable 5. Flight attendant smiles at me 6. Flight attendant always pleasant 7. Flight attendant is friendly 8. Flight attendant communicates well 9. PA announcement is clear 10. Flight attendant is courteous	7-point Interval Scale
Flight Safety	1. Highly safe air transportation experience 2. Reliable air transportation service 3. I am confident to fly with this airline 4. Flight attendant checks cabin for take-off 5. Flight attendant checks cabin for landing 6. Flight attendant checks cabin during bad weather 7. Flight attendant complies with safety 8. Flight attendant is conversant with safety 9. Flight attendant is well trained in safety 10. Aircraft is new	7-point Interval Scale
Inflight Service Quality	1. Adequate seat facilities 2. Comfortable seat 3. My seat is clean when I boarded 4. Consistent inflight service delivery 5. Completed meal service at the right time 6. Cabin temperature is satisfactory 7. Cabin ambience is satisfactory 8. Variety choice of food 9. Variety choice of beverages 10. Inflight entertainment is easy to use	7-point Interval Scale
Passenger Satisfaction	1. Airline should improve on seat quality 2. Airline should improve on food 3. Airline should improve on safety 4. Satisfied with inflight service 5. Satisfied with on board food 6. Inflight service value for money 7. Satisfactory inflight entertainment 8. Satisfied with current inflight service provision 9. Fly with this airline again 10. Recommend this airline to friend	7-point Interval Scale