# **Original Research Article**

#### 3 Service Quality and Customer Satisfaction on Budget Airlines: Kano model approach

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#### 5 6 Abstract

7 Although low-cost carrier (LCC) airlines do not provide significant service to customer, the 8 demand and market share of LCC is constantly increasing. Services provided by LCC and the quality of their services become a competitive advantage of LCC airlines. The purpose of this 9 research is to identify the factors that are 'must-be' dimension after being categorized into 10 11 five attributes by using Kano Model. 260 responses were collected. The questionnaires include questions about the services factors in the SERVOUAL service model, basic 12 13 demographic variables and respondents who have taken or not taken the Hong Kong Express 14 before as Hong Kong Express is classified as one significant player of LCC airlines in Hong Kong. The result can give insights to Hong Kong Express to identify their service areas that 15 16 needed to be improved and paid attention to increase customers' satisfaction in future.

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18 Keywords: Kano model, service quality, customer satisfaction, airlines

# 20 **1. Introduction**

The market share of low-cost carrier (LCC) is constantly improving recently. Hong Kong 21 22 Express Airways Limited (HK Express) carried 313,100 passengers in June 2017, which 23 increases 36.01% for whole year. In the past 12 months, 32,676 million passengers were 24 carried by HK Express, compared with the same period of time in last year, it has an increase 25 of 21.65% (Wenweipo, 2017). Service quality is a main antecedent of customer satisfaction 26 (Cronin and Taylor, 1992; Anderson and Sullivan, 1993; Brady et al. 2002). HK Express 27 cannot neglect this issue as it relates to how HK Express can constantly retain customers. Any companies failed to meet customer expectation, or generated customer dissatisfied and 28 29 eventually will lead to a loss of revenue (Zeithaml and Bitner, 2017). More studies mentioned that customer was satisfied if their expectations coincided with actual received 30 31 outcome (or the result exceeds their expectations), or dissatisfied if the expectations did not meet (Szwarc, 2005). However, 18 regular flights cancellation of HK Express recently 32 caused travel headaches for thousands of Hong Kong people in September 2017, which 33 34 brought customer dissatisfaction and leaded to negative word-of-mouth of HK Express. By observing 52 reviews from Skytrax (2017) about airline reviews and rating websites, 35 customers claimed that because their flights were cancelled, the services were incompetent 36 37 and irresponsible, therefore, they said HK Express would not be recommended. Shahin and 38 Zairi (2009) stated that Kano model could benefit on investigating customer requirement 39 prioritization, to avoid dissatisfaction. Although Kano model is widely applied in studies relating service and customer satisfaction, it is not commonly applied in investigating the 40 service provided by budget airline. Especially critically importance of this study is that most 41 marketing professionals will expect lower level of quality in budgeted airlines and hotels, 42 however, customers would not have the same expectations. So the significance of this study 43 in applying the Kano model is to identify what the must-be factors for a budgeted airline, HK 44 45 Express.

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- 47 2. Literature Review
- 48 2.1 Service quality

Definition of service quality was that a consumer's overall impression of the company 49 50 services and its efficiency (Park et al., 2004), or "as a chain of services in which the entire service delivery is divided into a series of processes" (Chen and Chang, 2005). Service 51 52 quality is the interaction between customers and airlines, which influences customers' perceptions and their images (Gursoy *et al.*, 2005). Price is increasingly used to be a ranking 53 54 method attracting customers, some airlines still try to gain competitive advantage by improving service quality (Jones and Sasser, 1995) and gained competitive edge by customer 55 56 perception (Chang and Yeh, 2002).

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# 58 2.2 Customer satisfaction

Nowadays interpretations proposed satisfaction as customer fulfillment response (David, 59 2013), which was one of the most crucial objectives for company aiming to have a long-term 60 61 relationship with customers (Vu and Huan, 2016). There are many factors customers would take into consideration before purchasing air-ticket, which are driving their expected 62 perceived performance from airlines. And customer satisfaction is considered as an industrial 63 64 standard performance and possible measurement criterion of excellence of company (Gerson, 1993). Therefore, providing desirable service for customers is important for airlines to 65 achieve their goals (Gerson, 1993) and possibly survive in the competition. 66

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#### 68 2.3 Service quality and customer satisfaction

69 Empirical studies by Choi et al. (2004); Naik et al. (2010); Cipovova and Demjan (2014) and 70 Belas and Gabcova (2014) indicated that providing quality of service leads to overall 71 customer satisfaction. Additionally, many researchers presented that there exists a close 72 correlation between service quality and customer satisfaction. Hazlina et al. (2011) stated 73 that service quality is essential to measure customer satisfaction, and providing high quality 74 services could maintain customer satisfaction; Judging whether company could provide quality services or not, one could base on the customer's perception from getting satisfaction 75 when consuming the services. In addition, higher levels of quality leads to higher levels of 76 customer satisfaction (Agbor, 2011). Service quality normally is regarded as a prerequisite of 77 customer satisfaction (Shanka, 2012). It is generally agreed that increasing possibility of 78 79 customer satisfaction with improvement of service quality. Steven et al. (2012) stated this 80 relationship that could help to identify optimum efficiency point for company to earn maximum profit, and lead to increase customer satisfaction (Behn and Riley, 1999; Sim, et 81 al., 2010; Snyder, 2014). Therefore, service quality has a positive impact to customer 82 satisfaction (Gilbert and Veloutsou, 2006; Shanka, 2012; Hussain, 2016). 83

#### 84 85 **2.4 Kano Model**

Kano model was developed in 1980 by Professor Noriaki Kano and had been widely
practiced in industries as an effective tool of understanding and focusing on customer
preferences, requirement prioritization, and requirement classification. There are five
attributes suggested for defining the importance of factors (Brandt, 1988).

- "Must-be" is the basic need expected by customers which leads to extreme customer
   dissatisfaction if they were absent or poorly satisfied.
- 92 2. "One-dimensional" requires better fulfillment leading to linear increment of customer
   93 satisfaction. Generated dissatisfaction when its absence.
- 94 3. "Attractive" usually unexpected by customers and could result in great satisfaction if they
  95 were available. Yet, absence would not result in passenger dissatisfaction or loss
  96 passenger.
- 97 4. "Indifferent" is that customers were not interested.
- 98 5. "Reverse" is to create dissatisfaction when existed.

Another attribute is the "Questionable" which is unclear whether this attribute was expectedby the customer, and is not undertaken in this study.

101

102 Researchers might rank individual product criterion of current product based on the five 103 attributes, therefore determine the importance, and established the priorities for product 104 development and made improvement when necessary (Kano, *et al.*, 1984). Kano model 105 supports analysing given service by HK Express, in which the requirements are expected by 106 passengers and which services could be improved to give higher customer satisfaction and 107 enhance passenger experience (Hsu *et al.*, 2007).

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109 There is a two-dimensional grids as shown in Figure 1. Vertical axis (Y) stands for 110 satisfaction and dissatisfaction of customers, whereas horizontal axis (X) stands for 111 conditions being sufficient or insufficient, some factors were essential to be implied.



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Figure 1. Kano et al., 1984

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115 Questionnaire contained pairs of customer requirement questions which were used to study

customer satisfaction level towards the degree of requirement fulfillment (Löfgren and Witell,
 2008). The questionnaire contained two questions for each customer requirement (Kano *et al.*,

118 1984; Berger, 1993). "Neutral", "Must-be", "Like" are procured in questionnaire, so to

evaluate six quality attributes of "Attractive", "Must-be", "One-dimensional", "Indifferent"

120 "Reverse" and "Questionable". (Shahin and Nekuie, 2011).

Customer Survey Responses		Dysfunctional Question Answer							
		1. Like	2. Must Be	3. Neutral	4. Live With	5. Dislike			
swer	1. Like	Questionable	Attractive	Attractive	Attractive	One-Dimensional			
on An	2. Must Be	Reverse	Indifferent	Indifferent	Indifferent	Must-Be			
Questi	3. Neutral	Reverse	Indifferent	Indifferent	Indifferent	Must-Be			
tional	4 Live With	Reverse	Indifferent	Indifferent	Indifferent	Must-Be			
Func	5. Dislike	Reverse	Reverse	Reverse	Reverse	One-Dimensional			

121 122 Table 1. Kano Evaluation Table

123 Each factor could be categorized in an evaluation table shown on Table 1 by using the result

- 124 of responses. For example, if the response of dysfunctional question was "dislike" and at
- functional was "must be", the factor would be the "must be" factor and if it was not existed, 125 126 customer would dissatisfy.
- 127

#### 2.5 Customers Satisfaction Coefficient 128

Berger (1993) stated that coefficient of satisfaction indicates whether the level of customer 129 satisfaction (CS) could be increased by meeting the requirement, or whether matching the 130 requirement that preventing customer from being dissatisfied. The positive CS-coefficient 131 132 has a range from 0 to 1. This value closing to 1 indicates a higher influence on customer 133 satisfaction whilst the value closing to 0 means lower influence on customer satisfaction. In a similar way, if negative CS-coefficient approaches -1, the influence on customer 134 dissatisfaction is especially strong when it was not fulfilled. As the value near 0 implies that 135 136 the attribute does not cause negative influence if the requirement was unmet (Behdioğlu and 137 Çilesiz, 2016).

- The results of the questionnaire indicate "extent of satisfaction" (ES) and "extent of 139 dissatisfaction" (ED) of each factor by the following formula (Chen and Chen, 2015; Huang 140 141 et al., 2015).
- Extent of satisfaction:  $ES = \frac{A+O}{A+O+M+I}$ 142 143 144
- 145

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Extent of dissatisfaction: 
$$x = \frac{M+O}{(A+O+M+I) \times (-1)}$$

After calculation, coordinate system could be created in which, X-coordinate is for ES and 146 Y-coordinate is for ED. Each quality attribute could be distributed to different quadrants of 147 the coordinate axis, corresponding to different Kano types (Huang, 2017) as shown in Figure 148 149 2.

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151 152

Figure 2. Coordinate System of the Kano type

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Hwang et al. (2014) stated that Kano model and coordinate system carried five benefits for 154 155 airlines development: (1) Identifying importance of the factors that affecting customer satisfaction and understanding customer requirements; and (2) offering valuable assistance in 156 trade-off situations in order to out of the difficult situation quickly; and (3) providing the 157 'must-be,' 'one- dimensional' and 'attractive' requirements in the perceptions of different 158 customer segments, the model enabled to assured the satisfaction at its best; and (4) 159 160 discovering and satisfying attractive requirements to increase differentiation; and (5) using to 161 establish the importance of service providing factors to its customer for formulating 162 development strategy.

# 164 **2.6 Factors affecting service quality and customer satisfaction**

Researches illustrated the possibilities on integration of SERVQUAL with Kano Model (Basfirinci and Mitra 2015; Gilbert and Wong, 2003) on airline services in proposing 26 factors that affect passenger expectations on airline services and those factors were grouped into seven dimensions, they were assurance, flight patterns, reliability, responsiveness, facilities, employee and empathy. Therefore, those factors would be included in this study that affect service quality and customer satisfaction.

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# 172 **2.6.1** Assurance

Gilbert and Wong (2003) suggested "Employees have knowledge to answer questions" and
"Safety". Besides, Liou and Tzeng (2010) indicated the importance of airline safety
customers' choice on airlines, discussed as one of the important factors to airline service
quality.

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# 178 2.6.2 Flight patterns

Convenient flight schedule is one of variables categorized to measure the service quality of
airlines (Park *et al.*, 2004). There were three factors defined by Gilbert and Wong (2003),
they are "Convenient flight schedules and enough frequencies", "Availability of global
alliance partners' network" and "Non- stop flights to various destinations". Besides,
Tsantoulis and Palmer (2008) supported airline schedule as one of the primary service quality
dimensions.

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# 186 2.6.3 Reliability

"Behaviour of employees gives confidence", "Consistent ground/in-flight services", 187 "Perform service right the first time", "Food and beverage" and "On-time departure and 188 arrival" were categorized in reliability (Gilbert and Wong, 2003). "On-time departure and 189 arrival", the punctuality is to measure satisfaction towards on airlines services (David, 2013; 190 Khan and Khan, 2014). The American Customer Satisfaction Index (ACSI) measures 191 customer satisfaction with the quality of products and services offered by both foreign and 192 193 domestic firms with significant share in U.S. markets (ACSI, 2017). In "ACSI Travel Report 194 2017", it indicated customer's satisfaction towards on airlines by using 12 dimensions and one of those was "Timeliness of arrival". 195

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# 197 **2.6.4 Responsiveness**

Gilbert and Wong (2003) summarized "Employees are always willing to help", "Prompt service by employees", "Employees handle requests/complaints promptly" and "Efficient check-in/baggage handling services" are the responsiveness on service quality of airlines. In addition, Gilbert and Wong (2003) suggested the importance of "Efficient check-in/baggage handling services" on airlines performance affecting service quality whilst Snyder (2014) mentioned "Fast check-in process" could enhance the service quality for satisfying customers.

# 205 **2.6.5** Facilities

Gilbert and Wong (2003) suggested "Availability of waiting lounges", additionally, other factors about facilities and services in-flight were used in evaluation of customer satisfaction, such as "clean and comfortable interiors/seat", "In-flight entertainment facilities and programmes" and "In-flight internet/email/fax/phone facilities" (David, 2013; Gilbert and Wong, 2003).

- 211
- 212 **2.6.6 Employee**

Providing sufficient training to employee ensures company to bring responsiveness to
customers and show importance of customers (Ramseook-Munhurrun *et al.*, 2010). Gilbert
and Wong (2003) suggested "Neat and tidy employees" and "Courteous employees".
Furthermore, helpful polite employees affected customer satisfaction on airlines (ACSI,
2017).

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# 219 2.6.7 Empathy

Delivering service with caring and individualized attention is vital for providing service quality. Many studies listed this dimension to test whether airlines were dedicated on service quality (Parasuraman *et al.*, 1985; Parasuraman *et al.*, 1988; Grönroos, 2007; Lovelock and Wirtz, 2007). Lai and Wu (2010) suggested "The station staff is professional.", "The traffic hour fulfills passengers' requirements" and "There are adequate facilities for passengers who are physically handicapped" are important in this dimension.

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# 227 **3.** Methodology

# 228 **3.1 Application of Kano Model**

HK Express is the only Hong Kong based low-cost airline, which has been founded for 13
years. However, the effect of passenger expectation on service perception and satisfaction
had not been fully investigated (Park *et al.*, 2004). Therefore, achieving better understanding
on customers, Kano model would be used to analyse the 29 factors derived from the above 7
dimensions to determine passenger satisfaction and dissatisfaction.

# 235 **3.2 Sampling method and sample size**

Questionnaire was used to collect primary data. According to William, Berry, Jon and Mitch (2013), a sample size of 260 responses are valid for further statistical analysis. Convenience sampling approach was used for higher response rate. Totally 260 valid responses were collected through face-to-face and online platform from mid-February to early March in 2018 in Hong Kong.

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## 242 **3.3 Questionnaire design**

The questionnaire composed of two parts. Part one is about the respondents' perception on the air services. All questions were set based on the Kano model to design functional and dysfunctional sides. The seven dimensions were referred from Lo and Wang (2016), Zhan (2015), Gilbert and Wong (2003) in designing the questions. The questionnaires are shown in Table 2 below.

Dimensions	Factors	Descriptions
Empathy	M1	The air ticket fare is reasonable.
	M2	The baggage fee is reasonable.
	M3	The meal cost is reasonable.
	M4	The cost of using recreational facilities is reasonable.
M5		The fare of seat selection is reasonable.
	M6	The fee of a change is reasonable.
	M7	The fare of provided travel packages with global alliance

		partners' network is reasonable.			
	M8	Provide variety duty free product.			
Flight patterns	M9	The traffic hour is good for passengers.			
	M10	The scheduled flight is sufficient to meet passengers' requirements.			
	M11	Various destinations for selection.			
	M12	The transfer scheduled is convenient for passengers.			
Assurance	M13	Airline staff can fully understand and answer customers' questions.			
	M14	Airline provides safe flight.			
Facilities	M15	Airline's official website provides sufficient information.			
	M16	Airline provides magazines and newspapers for in-flight service.			
	M17	Airline can provide easy-to-book website platform.			
Reliability	M18	Airline can provide on-time departure and arrival.			
	M19	Airline can provide consistent ground/in-flight services.			
	M20	Airline can perform service right the first time.			
	M21	Airline can provide paid food and beverage service.			
Employee	M22	Staff with professional knowledge.			
	M23	Staff can proactively provide services to passengers.			
	M24	Staff can handle complaints timely.			
	M25	Staff can handle unexpected situation well.			
Responsiveness	M26	Staff can respond to and resolve passengers' problems instantly.			
	M27	Staff can handle passengers' complaint and emergency situation.			
	M28	Staff with good-attitude to handle baggage that does not meet the requirement.			
	M29	Airline is good at handling damaged baggage.			

Table 2. Measurement items in Questionnaires

Part two is the demographic information of the respondents that include age, occupation,
education background and the experience of taking low cost airline.

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Based on the studies by Matzler and Hinterhuber (1998), there were five options for each
functional and dysfunctional questions: "I like it that way", "It must be that way", "I am
neutral", "I can live with it", "I dislike it that way" and the meaning of each option is shown
in Table 3.

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Scale	Meanings of scale
I like it that way.	When an element is sufficient, you feel "like."
It must be that way.	When an element is sufficient; you feel "must be."
I am neutral.	When an element is sufficient or not, you feel "neutral."
I can live with it that way.	When an element is sufficient; you feel "live with."
I dislike it that way.	When an element is sufficient, you feel "dislike."

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Table 3. Meaning of the option of choices

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An example of one measurement item is shown in Table 4.

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	-									
The air ticket fare is reasonable.	If Hong Kong Express Airways Limited <b><u>DOES providing</u></b> the following service.				If Hon Limite follow	g Kong d <b>DOE</b> ing serv	Expres S NOT vice.	s Airwa <b>provid</b> i	ys i <b>ng</b> the	
	I dislike it that way.	I can live with it.	I am neutral.	It must be that way.	I like it that way.	I dislike it that way.	I can live with it.	I am neutral.	It must be that way.	I like it that way.

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 Table 4. Kano Two-dimensional sample questions

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265 4. Analysis of Results and Discussion

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# 267 **4.1 Descriptive analysis**

Table 5 shows the analysis of the demographics of the respondents in which 103 males (30.62%) and 157 females (60.38%). The majority of respondents were between 21 and 30 years old (47.69%), the group with the highest number was students (37.69%), while professional/manager/administrative and white-collar commerce was the second and the third respectively. Nearly half (46.54%) of the respondents had degree or above. The majority of the respondents had experience on taking budgeted airlines (76.92%) whilst about 84% respondents had traveled with HK Express.

Variable	Category	No.	Percentage
Gender	Male	103	30.62%
	Female	157	60.38%
Age	Age 20 or under	22	8.46%
	Age 21-30	124	47.69%
	Age 31-40	46	17.69%
	Age 41-50	48	18.46%
	Age 50 or above	20	7.69%

Table 5. Demographic analysis results

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# 278 **4.2 Kano model analysis**

While evaluating the results of the survey, a 5-point scale was used: "1 =I dislike it that way.", "2 = I can live with it that way.", "3 = I am neutral.", "4 = It must be that way." and "5 = I like it that way." for the options chosen by the respondents. Then the highest percentage among the totals of each of these categories for a given requirement was picked as the category for the requirement. Finally, the list of quality requirements was identified.

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285 As shown in Table 1, the Kano model has 6 classifications of quality attributes, they are 286 attractive quality (A), must-be quality (M), one-dimensional quality (O), indifferent quality (I), reverse (R) and questionable (Q) quality, based on the results of functional and 287 dysfunctional responses towards each item. The results in Table 6 show that there was only 288 one factor of attractive quality (M17), three factors of must-be quality (M1, M13, M22), 289 290 eight factors of one-dimensional quality (M14, M18, M24, M25, M26, M27, M28, M29) and seventeen factors of indifferent quality (M2, M3, M4, M5, M6, M7, M8, M9, M10, M11, 291 292 M12, M15, M16, M19, M20, M21 and M23).

Dimensions	Factors	M(%)	<b>O(%)</b>	A(%)	I(%)	<b>R(%)</b>	Q(%)	Cl.
Empathy	M1	28.8	25.0	15.4	28.1	0.4	2.3	Μ
	M2	25.0	10.4	7.7	45.4	8.1	3.5	Ι
	M3	18.5	7.7	9.6	50.4	8.8	5.0	Ι
	M4	10.4	5.4	10.0	61.5	6.9	5.8	Ι
	M5	15	7.7	7.3	52.3	11.9	5.8	Ι
	M6	19.6	7.7	7.3	50.8	8.1	6.5	Ι
	M7	8.5	9.6	20.4	55	4.2	2.3	Ι
	M8	7.3	9.2	18.5	58.8	4.6	1.5	Ι
Flight patterns	M9	7.7	23.1	31.2	32.3	1.2	4.6	Ι
	M10	9.2	28.5	28.1	30.8	0.4	3.1	Ι
	M11	7.7	20.0	30.8	37.7	0.4	3.5	Ι
	M12	10.8	24.6	23.5	36.5	1.2	3.5	Ι
Assurance	M13	31.5	25.8	13.5	25.0	1.2	3.1	Μ
	M14	32.3	41.9	3.8	18.5	0.4	3.1	0
Facilities	M15	15	16.5	23.1	41.9	1.5	1.9	Ι
	M16	9.2	6.5	20.4	61.2	1.2	1.5	Ι

	M17	8.8	21.9	33.8	31.9	1.5	1.9	Α
Reliability	M18	19.2	36.9	16.5	25.0	0.8	1.5	0
	M19	17.7	21.9	18.8	38.8	0.8	1.9	Ι
	M20	17.7	27.3	16.2	35.8	1.5	1.5	Ι
	M21	6.5	6.9	11.9	61.5	11.2	1.9	Ι
Employee	M22	31.5	24.2	16.2	24.6	1.2	2.3	Μ
	M23	18.1	20.8	26.5	32.7	0.0	1.9	Ι
	M24	20.4	34.6	16.9	25.0	0.4	2.7	0
	M25	19.2	31.2	21.2	25.4	1.5	1.5	0
Responsiveness	M26	19.2	32.3	16.9	27.7	0.8	3.1	0
	M27	16.2	31.5	20.4	28.5	1.5	1.9	0
	M28	18.1	32.3	18.1	29.2	0.4	1.9	0
	M29	22.7	38.5	10.4	24.2	0.8	3.5	0

Table 6. Kano model analysis for classification

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# 296 4.2.1 Must-be factors

According to the findings shown in Table 6, there were three "must-be factors" identified,
they were "The air ticket fare is reasonable", "Airline staff can fully understand and answer
customers' questions" and "Staff with professional knowledge".

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Firstly, HK Express is renowned as budgeted airline in Hong Kong, there is no doubt that customers will take "price" as one of concerning aspects to evaluate their choices (Barceló and Santesteban, 2017). It might be the reason on high competitive environment of airline industry, there are numerous airline companies for choosing, tourists are willing to spend more during their travel instead of ticket fare.

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307 Besides, staff performance also is an aspect which can influence customer satisfaction 308 towards airline. Therefore, "Airline staff can fully understand and answer customers' questions" and "Staff with professional knowledge" are integrated in employee aspect for 309 310 analysis of HK Express. Customers will concern employee performance of HK Express, such as their professionalism, service perceived, and whether the employees could provide 311 312 expected feedback to customers or not. If must-be factor was absent, customers would generate dissatisfaction which might not be surprising that customers are dissatisfied on HK 313 Express because of immediate cancellation and delay issues recently which leads to 314 customers for baring a risk of delay and sudden changes of their trip. Hence, it might be 315 easily to generate customers' dissatisfaction. 316

317

The results imply two significant issues, the service level by employees and guarantee service offered. As most companies providing budgeted services usually expect the customers can tolerate limited service. The result found here states that it is not true. No matter what price level offer, high level of service is a must factor to satisfy customers. Of course, guaranteed service but finally cancelled is definitely dissatisfying customers at all. Management needs to treat this issue and try their best not to let this cancellation of service happen.

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# 326 4.2.2 One-dimensional factors

327 One-dimensional factors are defined as "more is better' but could also be 'faster is better' or 328 'easier is better'" (Shahin and Zairi, 2009), to achieve and maintain better service quality to 329 customers. It is also called performance factor that creates satisfaction when it exists but 330 generates dissatisfaction when it is absent.

From Table 6, there was difference between the results of this study and other research. For example, airline safety was a must-be factor for customers in the finding by Basfirinci and Mitra (2015) whilst it is a one-dimensional factor in this study. It might be due to high safety standard of airlines in Hong Kong, therefore safety would not be the major concern on choosing airlines by customers. Additionally, HK Express recently receives the award "Top 10 Safest Low-Cost Airlines" in 2018, which also gives customers confidence on safety.

- Besides, on-time departure is also a one-dimensional factor for customers in this study,
  which shares the same result found by Basfirinci and Mitra (2015) for USA interviewees.
  Even though HK Express is well known for its cheap tickets, at the same time it experiences
  delay and sudden cancellation issues, which brought negative goodwill for HK Express.
  Therefore, HK Express is suggested to pay certain attention on punctuality issue for better
  customer satisfaction.
- 345

Moreover, the "Attitude of staffs to deal with customers" is always delighted on customer 346 satisfaction. For example, the questions from M24 to M29 focus on the performance of 347 employees, which show that the most influential factors that affecting customer satisfaction 348 are related to the interaction between staff and customers. These one-dimensional factors are 349 350 similar with other research (Lo and Wang, 2016; Bing and Hsu, 2007). Bing and Hsu (2007) 351 suggested 52 aspects to examine the factors on influencing satisfaction on airline industry, while their results share the similarity with this research, such as "Staff can handle 352 353 complaints timely" and "Staff can handle unexpected situation well", these two factors were 354 also placed as one-dimensional factor in the finding by Bing and Hsu (2007). Besides, the other four one-dimensional factors found in this study, "The staff can respond to and resolve 355 passengers' problems instantly", "The staff can handle passengers' complaint and emergency 356 situation", "The staff with good-attitude to handle baggage that do not meet the requirement" 357 and "Airline is good at handling damaged baggage" are also illustrated as one-dimensional 358 factors in the finding by Lo and Wang (2016). Lo and Wang (2016) also commented the 359 360 significance of interaction between staff and customers to enhance customer satisfaction.

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It further proves the importance of interaction between customers and staff. The interaction is
not only just what the server serves the customers, but also how the server serves. Whether
the customers think that the servers are caring about them and how the server solve
unexpected situation, like sudden problems and complains.

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# 367 4.2.3 Attractive factors

Attractive quality is the requirements beyond customers' expectation. Kano (1984) referred this as "surprising quality". Their absence does not dissatisfy customers, but their presence delights customers. An attractive quality had emotion associated with it as customers get more than they are expecting. This type of quality was known as "wow" quality (Breyfogle *et al.*, 2001).

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Table 6 shows that there was only one attractive attribute found, which is "Airline can provide easy-to-book website platform". The factor is about whether HK Express had good ticketing reservation system for customers. "The system offers easy-to-book feature" means the searching and booking processes which are simple and user-friendly for customers.

- 378 Customers do not need to read any instructions in all stages of air ticket reservation.
- 379

- To satisfy customers by providing services more than customers' expectation is very critical.
  Although it is practically not easier, management needs to aware of this attractive factor and
  provides frequent promotion that over the customers' expectation, such as very special price
  of tickets.
- 384

# 385 **4.2.4 Indifferent factors**

Factors in this category means that customers are indifferent to these requirements.
Customers usually do not care whether these factors are fulfilled or not (Dehdari and Jafari, 2013). Therefore, further analysis will not be developed on these factors.

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# 390 **4.2.5 Questionable factors**

As mentioned above that the questionable factors were not considered in this study, however,
those kinds of questions were included in the questionnaires for control purpose. The results
of questionable shown in Table 6 proves the assumption of this study as their values all are
the lowest in each of the items in each dimension of service quality.

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# 4.3 Importance of factors categorized by Kano model between those who have taken 397 HK Express before and those who have taken other low cost airline 398

Table 7 shows that "Staff could handle unexpected situation well" is a one-dimensional 399 400 factor for respondents who have taken HK Express before, but it was an attractive factor for respondents who have not taken HK Express. Respondents have taken HK Express thought 401 that "Sufficient scheduled flight" and "Staff can handle passengers' complaint and 402 403 emergency situation" were indifferent factors. On the contrast, respondents have not taken HK Express indicated that these were one-dimensional factors. Respondents in this group 404 405 generated different opinions and expectations towards HK Express services and quality of staff. Respondents who have taken HK Express might think that insufficient scheduled 406 flights and limited capability of staff were reasonable because they know they were having 407 services of low-cost carriers. However, those who have not taken HK Express would be 408 delighted if HK Express offered such attributes. 409

410

Taken HK Express	M1	M22	M13	M14	M18	M24	M26	M28
Yes	М	М	Μ	0	0	0	0	0
No	M	Μ	M/O*	0	0	0	0	0
Taken HK Express	M29	M25	M10	M27	M9	M12	M17	
Yes	0	0	Ι	Ι	Ι	Ι	Ι	
No	0	А	0	0	Α	Α	Α	

411

414

\*Same score for the two categories

- Those factors, "Good traffic hour", "Convenient transfer schedule" and "Easy-to-book website platform" are indifferent factors as found above, therefore, respondents who have taken HK Express might not consider these factors as attractive factors. "Staff can handle unexpected situation well" is a one-dimensional factor for respondents who have taken HK Express but is an attractive factor for others. It might be due to their past experience and expectation towards the staff of HK Express on handling unexpected situation for those who have taken the HK Express before.
- 422

<sup>412</sup> Table 7. Factors categorized by Kano mode between those who have taken HK Express
413 before and those who have other LCC

423 "The reasonable air ticket fare" and "Staff with professional knowledge" are two must-be
424 factors. Customers classifies HK Express as a LCC, as a result, their first consideration
425 would be on "The air ticket fare is reasonable or not". It was unacceptable if the fares
426 became comparable with those of full-serviced airlines.

427

428 There are one-dimensional factors that all respondents agreed with, including M14, M18, 429 M24, M26, M28 and M29. Hence, the respondents would not take "Safe flight" as majority aspect to decide. The "On-time departure and arrival" would directly influence their 430 perception on HK Express, because airlines are expected to strive on punctuality. "Staff 431 could handle complaints timely", "Respond to and resolve passengers' problems instantly" 432 433 and "Airline is good at handling damaged baggage" are factors that direct interaction were built between customers and airline staff. Thus, customer's perception towards HK Express 434 435 might influence by their interaction with staff.

436

## 437 **4.4 The coefficient of satisfaction**

Table 8 shows the requirements that lead to satisfaction/dissatisfaction and coefficient ofsatisfaction and dissatisfaction.

Dimensions	Factors	Extent of satisfaction	Extent of dissatisfaction
Empathy	M1	0.42	-0.55
	M2	0.20	-0.40
	M3	0.20	-0.30
	M4	0.18	-0.18
	M5	0.18	-0.28
	M6	0.18	-0.32
	M7	0.32	-0.19
	M8	0.30	-0.18
Flight patterns	M9	0.28	-0.33
	M10	0.59	-0.39
	M11	0.53	-0.29
	M12	0.50	-0.37
Assurance	M13	0.41	-0.60
	M14	0.47	-0.77
Facilities	M15	0.41	-0.33
	M16	0.28	-0.16
	M17	0.58	-0.32
Reliability	M18	0.55	-0.57
	M19	0.42	-0.41
	M20	0.45	-0.46
	M21	0.22	-0.15
Employee	M22	0.42	-0.58
	M23	0.48	-0.40
	M24	0.53	-0.57
	M25	0.54	-0.52
Responsiveness	M26	0.51	-0.54
	M27	0.54	-0.49
	M28	0.52	-0.52
	M29	0.51	-0.64

Table 8. The coefficient of satisfaction and dissatisfaction

After calculating the results of ES and ED, each factor is assigned into the two axis in a
coordinate system with the questionnaire results. The minus sign in front of the CScoefficient of customer dissatisfaction is to emphasize its negative influence (Sauerwein *et al.*, 1996) that shown on Figure 3. The average of the X and Y axes are both equal to 0.41.

447



The coefficients found validate the effectiveness of the Kano method. According to the interpretation of the importance performing as shown in Figure 3 which graphically presents on a grid that divided into four quadrants, the interpretations of these four quadrants are as followings (Hsu *et al.*, 2007):

456 Quadrant I

The items located in quadrant I on behavior of higher ES and ED coefficients, which are perceived to increase lower extent of satisfaction, but decrease higher dissatisfaction when it is accomplished.

460

448 449

450

455

There are three items (M1, M13 and M22) placed in quadrant I. Because of a very little influence on satisfaction by meeting these items, so there is no strong recommendations to improve these items in this area as they are more conservative to decrease dissatisfaction.

464 465 *Quadrant II* 

The items located in Quadrant II on behavior of higher ES and ED coefficients, which are to
 increase higher satisfaction and decrease higher dissatisfaction when those are fulfilled.

468

In this study, there are nine items (M14, M18, M20, M24, M25, M26, M27, M28, and M29)
located in Quadrant II. It is suggested that those items in this area should be considered as
higher priority if HK Express would like to make an improvement of service quality.

- 472
- 473 <u>Quadrant III</u>
- 474 The items located in Quadrant III that represent the factors with low ES and low ED.
- 475
- In this study, ten items (M2, M3, M4, M5, M6, M7, M8, M9, M16 and M21) are identified in
- 477 Quadrant III. These items in this area have lower level of attention. It is recommended that

- those factors do not need to be improved when HK Express does not have much time andcapital to cater these items.
- 480
- 481 *Quadrant IV*
- The items located in Quadrant IV represent that meeting these factors leads to higher
  satisfaction, even if they were not fulfilled, customers would not feel dissatisfied.
- 484
- In this research, Quadrant IV included 5 items (M10, M11, M12, M17 and M23). When HK
  Express making the marketing strategies, including the items in this area would enable HK
  Express to enhance customer satisfaction significantly, for example, providing sufficient
  flights to various destinations for customer to choose.
- 489

# 490 5. Limitations and Recommendations

This research uses online and offline ways to collect respondents' perception, however there 491 are some limitations as this research only considers about customer's view but not provider's 492 493 view. By anglicizing the differences between provider and customer would help provider adjust operational strategies and policies. Besides, due to time constraints, some of the 494 groups had smaller sample size that might limit the insight of this study, for example, in the 495 age between 31 and 40 and between 41 and 50. Furthermore, one limitation of using the 496 497 Kano model is that it did not take sufficient account of the degree of importance attached to 498 certain quality elements. For future studies, other models could be used to evaluate the 499 degree of importance of the quality elements in supplementing the Kano model. 500

# 501 6. Conclusion

After defining the objective and factors, the study of the level of importance on different 502 503 factors by using Kano model towards HK Express were quoted from different literature reviews, and this study integrates SERVQUAL service model with Kano model. This 504 research collected data with quantitative questionnaire by adopting functional and 505 dysfunctional questions to categorize factors into 6 categories. 29 factors were evaluated in 506 this research, "The air ticket fare is reasonable.", "Airline staff can fully understand and 507 answer customers' questions." and "Staff with professional knowledge." are identified as 508 509 must-be factors, which customers would dissatisfy if HK Express did not provide these services. Thus, HK Express should constantly improve their service by their staff even 510 though they are budgeted airline. It is important business strategy that lower price does not 511 implies providing lower level of service. HK Express needs to provide more training to their 512 staff in offering high quality of service. 513

514

Furthermore, "Airline provides safe flight.", "Airline can provide on-time departure and 515 arrival.", "Staff can handle complaints timely.", "Staff can handle unexpected situation 516 well.", "The staff can respond to and resolve passengers' problems instantly.", "The staff can 517 handle passengers' complaint and emergency situation.", "The staff with good-attitude to 518 handle baggage that do not meet the requirement.", "Airline is good at handling damaged 519 baggage." are one-dimensional factors. The customers would be more satisfied when HK 520 521 Express could fulfill all those elements, but it was not necessary. However, just recalling the 522 descriptions above, training to employees in providing qualified service is being a must in contemporary keen competitive environment. Besides, one attractive factor is found which is 523 "Airline can provide easy-to-book website platform." It concerns whether HK Express has a 524 525 good and user friendly online ticketing reservation system that customers could search and 526 book air tickets at anytime and anywhere. It is not surprising as more tourists, especially with

527	low	ver budget in their trips, will book all services through online booking environment, so it is
528	nec	essary for HK Express to enhance service in this channel.
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