A survey on the Hong Kong Airport Third Runway project (HKATRP) in the Strategic Assumptions and Surfacing Technique (SAST) spirit

JOSEPH KIM-KEUNG HO
Independent Trainer
Hong Kong, China

Abstract:

The Hong Kong Airport Third Runway project (HKATRP) has generated much controversy in the society of Hong Kong. Treating the case as a situation with an ill-structured problem, Ho (2015) has examined this project with the Strategic Assumptions and Surfacing Technique (SAST) rationale. Via the exercise, a number of assumptions underlying the HKATRP have been identified. This paper, as a follow-up study, conducts a Facebook-based survey to learn local people's perceptions as related to this set of HKATRP assumptions, so as to obtain a deeper understanding of these assumptions and the nature of the debate. Furthermore, the survey data are further examined using multiple regression analysis. On the whole, the survey findings indicate that the HKATRP assumptions identified by Ho (2015) are conceived as important, yet low in certainty.

Key words: Facebook-based survey; Hong Kong Airport Third Runway project (HKATRP); multiple regression analysis; the Strategic Assumptions and Surfacing Technique (SAST)

Introduction

The Hong Kong Airport Third Runway project (HKATRP), being expensive, at the budgeted cost of HK$145.5 billion, and

controversial, is a wicked issue of tremendous public concern in Hong Kong. In a recent article, this writer has conducted a self-reflective review (the so-called mode 2 exercise in soft systems thinking of Checkland and Scholes (1990).) of the HKATRP using the expert approach, the devil's-advocate approach and the Strategic Assumptions and Surfacing Technique (SAST), all of which are drawn from the SAST literature (Ho, 2015). Via the review, a number of critical assumptions underlying the HKATRP have been identified. In such exercise, the writer played the role of a self-appointed consultant offering "a new perspective" (Wickham, 2004: Chapter 2) to readers who are concerned about the impacts of the HKATRP. This paper is a follow-up study by conducting a Facebook-based survey to learn perceptions related to the HKATRP assumptions from respondents who reside in Hong Kong. It is argued that, with the survey findings on perceptions on the HKATRP, we gain an additional perspective, as grounded on prevailing public opinions, to evaluate the HKATRP assumptions. This further enriches our understanding of the nature and debates around the HKATRP, thus steering readers to a more informed evaluation of the HKATRP. Specifically, the paper proceeds with the study in the following way: The next section briefly explains the nature and debates around the HKATRP as well as the SAST rationale. Then the key assumptions underlying the HKATRP are introduced. These assumptions are then treated as core concerns in a Facebook-based survey which gauges the public perceptions on them. Finally, the survey findings are presented and analyzed.

The HKATRP debate viewed from the Strategic Assumptions and Surfacing Technique (SAST) perspective

The HKATRP was proposed in the report 'HKIA 2025' by the Airport Authority Hong Kong (AAHK). The proclaimed project

aim is to increase the Hong Kong International Airport's runway capacity in view of the imminent runway capacity shortage and in response to direct competition from other regional airports. The details of the HKATRP have been published in threerunwaysystem.com established by the AAHK with four main topic: (1) meeting future demand, (2) three-runway system, (3) environmental impact & mitigation, and (4) public engagement (Hong Kong International Airport Authority, 2015). Another source of information on the HKATRP, which is clearly articulated, comes from C.K. Law and his colleagues at the Department of Decision Sciences and Managerial Economics, the Chinese University of Hong Kong, see Law *et al.* (2007; 2015). By studying the local newspaper articles on the HKATRP, Ho (2015) has identified a number of ideas in support of the HKATRP. They are summarized as follows:

a. The 3rd runway is built to avoid foreseeable runway capacity shortage as well as to meet direct competition from other regional airports nearby.
b. Certain technical problems related to the project, including the airspace negotiation with other parties in the Mainland, will be solved by the time the 3rd runway facility is implemented; besides, these problems, notably the regional airspace coordination being unconstitutional, do not exist in the first place.
c. Project financing takes the form of extra charge from airport passengers, issuance of bonds and bank loans. Investors appear to be interested in purchasing these bonds, implying that they support the HKATRP.
d. An advisory committee is to be set up to monitor controversy of the HKATRP and regular reporting is to be made to lawmakers as a way to strengthen the project reporting function.

The supportive ideas on HKATRP have been considered by Ho (2015) as forming the ***expert approach*** that has been espoused in the Strategic Assumptions and Surfacing Technique (SAST) literature of Mason (1969), and Mason and Mitroff (1981). The SAST approach is chosen to study the HKATRP because it is designed to cope with "ill-structured problems at the strategic level" with primary focus on "problem formulation and structuring" (Jackson, 1989). It is therefore highly relevant to the study of the HKATRP. In the SAST literature, other than the expert approach, two more approaches are considered, namely, the ***devil's-advocate approach*** and the ***SAST***. The ***devil's-advocate approach*** directs our attention to the criticisms on the HKATRP. On these criticisms, Ho (2015) identifies the following:

a. The critical issue of airspace management has not been settled satisfactorily and is expected difficult to be settled satisfactorily.
b. The Hong Kong Government and the Airport Authority Hong Kong have been quite evasive and defensive all along in responding to queries and expressed worries about the HKATRP from the pressure groups and politicians.
c. The Hong Kong Government and the Airport Authority Hong Kong have not sufficiently been consulting the legislative council and the public on the HKATRP financing arrangements.
d. The Hong Kong Government and the Airport Authority Hong Kong (AAHK) have not seriously considered alternative plans, e.g., building a new airport, to address the impending airport capacity shortage concern.
e. The HKATRP creates severe hazards to the airport area's marine ecology and Ma Wan.
f. The health impact assessment of the HKATRP is incomplete and misleading.

g. The cost estimate of the HKATRP, e.g., on Terminal 2 expansion, is too conservative.

These criticisms on the HKATRP conceptually make up the ***devil's-advocate approach*** in the SAST literature (Ho, 2015). Finally, an opposing plan to the HKATRP has been described by Ho (2015), which forms a vital component of the **SAST** of Mason and Mitroff (1981). In the words of Jackson (1989), the SAST "aims to ensure that alternative policies… are considered". Such a task has been taken up by Ho (2015). The main points of the opposing plan, which involves building a new airport at the southern end of Lamma Island, are as follows:

a. Building such a new airport does not require major airspace negotiation with the mainland authorities.
b. Its negative impacts on conservation and marine ecology are much smaller than that of the HKATRP.
c. The new airport plan can proceed in stages, thus more flexible than the HKATRP.
d. The project implementation duration is comparable to that of the HKATRP, thus not more time-consuming.

Reflecting on the main points from the three approaches as identified in the SAST literature, Ho (2015) uncovered and made some evaluation on the following major assumptions underlying the HKATRP:

Assumption 1: the Hong Kong Airport Authority has the project management competence to oversee the third runway project to achieve project management success in terms of the declared time, cost, quality and time targets.
Assumption 2a: the Guangdong airport authority is willing to collaborate with the Hong Kong Airport Authority and the PRC

military to work out an airspace arrangement that is acceptable to all parties concerned in the near future[1].

Assumption 2b: the Guangdong airport authority is willing to collaborate with the Hong Kong Airport Authority to work out a win-win co-opetition relationship in regional airport services.

Assumption 3: the PRC military is willing to collaborate with the Hong Kong Airport Authority and the PRC military to work out an airspace arrangement that is acceptable to all parties concerned in the near future.

Assumption 4a: the Hong Kong airport's customers find the Hong Kong airport services superior to that of other alternative airport services nearby.

Assumption 4b: the Hong Kong airport's customers have a high demand for the service of the Hong Kong airport arising from their activities in Hong Kong as an ongoing regional service, tourism and logistics hub.

Assumption 5: The rest of the stakeholders have sufficient trust in the government's ability and motivation to take care of their interests.

While the SAST methodology specifies that these assumptions: (a) be evaluated in terms of certainty and importance, and (b) be debated and modified via a dialectical debate process, these steps are not feasible with the HKATRP (Ho, 2015). The main HKATRP decision-makers and stakeholders are plainly not willing to participate in such a dialectical debate. Besides, the writer does not have the social status to invite them to do so. Instead, the writer conducts a Facebook-based survey to gauge public perceptions that are related to this set of HKATRP assumptions. The survey design and findings are presented in the next section.

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[1] An agreement (the '2007 plan') has been made with mainland authorities on the airspace arrangement for the Pearl River Delta, but its content has been kept confidential (Lee, 2015).

Facebook-based survey design and findings

A Facebook-based survey was conducted with the writer's Facebook friends from December 4 to 8, 2015. The survey instrument employed, which is free of charge, is offered by kwiksurveys.com. Most of these friends are the writer's existing or former tertiary education students. Invitations were sent out mainly via the event invitation function in Facebook pages and groups. The writer is aware that using Facebook messaging to send out survey invitation is quite restrictive as the messages are often blocked by the Facebook organization. The research method of Facebook-based survey was evaluated by Ho (2014), thus not repeated here. There are altogether 19 questions in the survey questionnaire, which covers the profile of the respondents and their perceptions on topics that are related to the key assumptions of the HKATRP, see *appendix 1* for the list of questions and basic survey statistics. 90 respondents have participated in the survey. The main survey findings, seven of them altogether, are as follows:

Finding 1 (re: survey questions 5 and 6): Table 1 shows respondents' familiarity and attention paid on the HKATRP topic:

Table 1

	Sufficient familiarity with the HKATRP topic (re: question 5)	Sufficient attention paid to the HKATRP topic (re: question 6)
Feel strongly this way	11 (12.22%)	4 (4.44%)
Feel mildly this way	42 (46.67%)	45 (50%)
Do not feel this way	32 (35.56%)	40 (44.44%)
No comments	5 (5.56%)	1 (1.11%)

The table indicates that about half of the respondents (i) are sufficiently familiar with and (ii) pay sufficient attention to the HKATRP topic. On the whole, the survey figures are on the low side, bearing in mind the substantial amount of public money

investment in the project at HK$145.5 billion, and tremendous impacts of the project to the city. This is likely is due to the fact that many of the respondents are busy, thus not having time to learn the HKATRP topic.

Finding 2 (re: survey questions 7 and 8): Table 2 shows the respondents' confidence in the Hong Kong Airport Authority (AAHK)'s project management competence as well as their perceived importance of such competence to the runway project success.

Table 2

	Confidence in the project management competence of the HK Airport Authority (re: question 7)	*Perceived importance of AAHK's project management competence to the runway project success (re: question 8)*
Feel strongly this way	7 (7.78%)	34 (37.78%)
Feel mildly this way	30 (33.33%)	40 (44.44%)
Do not feel this way	47 (52.22%)	14 (15.56%)
No comments	6 (6.67%)	2 (2.22%)

Referring to Table 2, most of the respondents consider AAHK's project management competence as important to the runway project success, yet less than half of them are confident in AAHK's project management competence. Finding 2 is related to Assumption 1 of the HKATRP.

Finding 3 (re: survey questions 9 and 10): Table 3 measures (1) the respondents' confidence that a satisfactory airspace arrangement will be worked out as well as (2) the perceived importance of such an arrangement to the runway project success.

Table 3

	Confidence that a satisfactory airspace arrangement will be worked out (re: question 9)	*Perceived importance of a satisfactory airspace arrangement to the runway project success (re: question 10)*
Feel strongly this way	4 (4.44%)	34 (37.78%)
Feel mildly this way	21 (23.33%)	35 (38.89%)
Do not feel this way	57 (63.33%)	17 (18.89%)
No comments	8 (8.89%)	4 (4.44%)

Table 3 indicates that, to the majority of respondents, a satisfactory airspace arrangement is vital to the runway project success. At the same time, the majority of them have low confidence that such an arrangement will be worked out. Finding 3 is related to Assumption 2a of the HKATRP.

Finding 4 (re: survey questions 11 and 12): The following table, Table 4, indicates (i) the respondents' perception on sufficiency of runway project information released by the Hong Kong Government and (ii) the perceived importance of broad-based trust to the runway project success.

Table 4

	Perceived sufficiency of runway project information released by the Hong Kong Government (re: question 11)	*Perceived importance of broad-based trust to the runway project success (re: question 12)*
Feel strongly this way	4 (4.44%)	32 (35.96%)
Feel mildly this way	9 (10%)	32 (35.96%)
Do not feel this way	69 (76.67%)	16 (17.98%)
No comments	8 (8.89%)	9 (10.11%)

Referring to Table 4, the majority of the respondents consider broad-based trust to be vital to the runway project success, yet only a small proportion of them feel that sufficient runway project information has been provided by the Hong Kong Government. Finding 4 is related to Assumption 5 of the HKATRP.

Finding 5 (re: survey questions 13 and 14): Table 5 reveals the respondents' feeling on the need to evaluate an alternative plan of building a new airport as well as their opinion on intensity of time pressure to upgrade the airport's operations capacity.

Table 5

	Perceived need to evaluate the alternative plan of building a new airport (re: question 13)	*Perceived time pressure to upgrade our airport capacity (re: question 14)*
Feel strongly this way	30 (33.33%)	13 (14.44%)
Feel mildly this way	27 (30%)	38 (42.22%)
Do not feel this way	25 (27.78%)	29 (32.22%)
No comments	8 (8.89%)	10 (11.11%)

Regarding Table 5, the majority of respondents feel the need to evaluate the alternative plan of building a new airport while slightly more than half of them agree that there is much time pressure on upgrading our airport capacity. Taken as a whole, the statistics on respondents' feeling are in favor of taking up the task of evaluating the alternative plan of building a new airport – there is time available to do so. Finding 5 is related to the value of conducting a SAST exercise on the HKATRP, with the alternative plan being the antithesis in the SAST exercise (Ho, 2015).

Finding 6 (re: survey questions 15, 16, 17 and 18): The following table, Table 6, shows respondents' opinions on the HKATRP in terms of four project success criteria: speed, cost-effectiveness, political acceptability, and environmental impacts.

Table 6

	Perceived value on the HKATRP's speed (re: question 15)	*Perceived value on the HKATRP's cost-effectiveness (re: question 16)*	*Perceived value on the HKATRP's political acceptability (re: question 17)*	*Perceived value on the HKATRP's ecological impact (re: question 18)*
Feel strongly this way	14 (15.56%)	14 (15.56%)	19 (21.35%)	10 (11.11%)
Feel mildly	28 (31.11%)	27 (30%)	36 (40.45%)	27 (30%)

this way				
Do not feel this way	43 (47.78%)	39 (43.33%)	29 (32.58%)	44 (48.89%)
No comments	5 (5.56%)	10 (11.11%)	5 (5.62%)	9 (10%)

Regard Table 6, broadly around half of the respondents feel that the HKATRP has positive project value in terms of speed (46.67%), cost-effectiveness (45.56%), political acceptability (61.8%) and ecological impact (41.11%). Among them, the highest positive response figure with such positive opinion comes from the perceived political acceptability question (question 17) and the lowest one is from the ecological impact one (question 18). Finding 6 sheds light on success criteria considerations related to Assumptions 4a, 4b and 5 of the HKATRP.

Finding 7 (re: survey questions 1, 2, 3, 4, 5, 7, 9, 11, 15, 16, 17, 18 and 19): Finding 7 is based on an Excel-based multiple regression analysis that examines the following multiple regression formula (Lind *et al.*, 2001). The coding scheme used is provided in *appendix 2*.

Proposed formula with variable values not yet known
Confidence in ultimate success of the HKATRP (variable y) = a + b1 x (x1: gender) + b2 x (x2: age group) + b3 x (x3: education background) + b4 x (x4: self-perceived social class) + b5 x (x5: familiarity with the HKATRP) + b6 x (x6: confidence in project management competence of AAHK) + b7 x (x7: confidence that a satisfactory airspace arrangement will be worked out) + b8 x (x8: perceived sufficiency of project information released) + b9 x (x9: perceived HKATRP desirability in speed) + b10 x (x10: perceived HKATRP desirability in cost-effectiveness) + b11 x (x11: perceived HKATRP desirability in political acceptability) + b12 x (x12: perceived HKATRP desirability in ecological impact)

The independent and dependent variables of the formula are explained as follows:
Variable y (confidence in ultimate success of the HKATRP): The variable is related to survey question 19.

Variable x1 (gender): The variable is related to survey question 1.

Variable x2 (age group): The variable is related to survey question 2.

Variable x3 (education background): The variable is related to survey question 3.

Variable x4 (self-perceived social class): The variable is related to survey question 4.

Variable x5 (familiarity with the HKATRP: The variable is related to survey question 5.

Variable x6 (confidence in project management competence of AAHK): The variable is related to survey question 7.

Variable x7 (confidence that a satisfactory airspace arrangement will be worked out): The variable is related to survey question 9.

Variable x8 (perceived sufficiency of project information released): The variable is related to survey question 11.

Variable x9 (perceived HKATRP desirability in speed): The variable is related to survey question 15.

Variable x10 (perceived HKATRP desirability in cost-effectiveness): The variable is related to survey question 16.

Variable x11 (perceived HKATRP desirability in political acceptability): The variable is related to survey question 17.

Variable x12 (perceived HKATRP desirability in ecological impact): The variable is related to survey question 18.

The Excel regression analysis result is now incorporated into the formula as follows (re: *appendix 3*):

Confidence in ultimate success of the HKATRP (variable y) = 0.7874 + 0.0842 x (x1: gender) – 0.0171 x (x2: age group) – 0.1401 x (x3: education background) + 0.0079 x (x4: self-perceived social class) – 0.1302 x (x5: familiarity with the HKATRP) + 0.5169 x (x6: confidence in project management competence of AAHK) + 0.2081 x (x7: confidence that a satisfactory airspace arrangement will be worked out) + 0.0346 x (x8: perceived sufficiency of project information released) + 0.0157 x (x9: perceived HKATRP desirability in speed) + 0.1828 x (x10: perceived HKATRP desirability in cost-effectiveness) – 0.0225 x (x11:

perceived HKATRP desirability in political acceptability) + 0.3320 x (x12: perceived HKATRP desirability in ecological impact)

Interpretation

Many of the independent variables have only slight correlations with the y variable of "confidence in ultimate success of the HKATRP" and p-values not low enough (i.e., not less than 5%) to reject the null hypotheses that their b values be zero. (re: *appendix 3*). The exception is variable x6 (confidence in project management competence of AAHK), while variable x12 (*: perceived HKATRP desirability in ecological impact), with p value at 2.9569%, is close to the critical value of 2.5% but not low enough still to reject the null hypothesis that its b value be zero. Nevertheless, all the b values produced via the multiple regression analysis report do unearth some weak signals on the correlations between the y variable and the 12 independent variables (the x variables). Finding 7 covers a broad range of factors (i.e., the independent variables in the regression formula) related to the *confidence in ultimate success of the HKATRP*. It is related to Assumptions 1 (re: variable x6), 2a (re: variable x7), 3 (re: variable x7), 4 (re: variables x9, x10, x11, and x12), and 5 (re: variables x6 and x8). Admittedly, correlation, as studied in the regression formula, is not the same as cause-effect relationship.

The seven survey findings on the respondents' perceptions indicate that the majority of them endorse the importance of the assumptions identified by Ho (2015) while having dissatisfaction and worries on the low certainty of these assumptions. All in all, the seven survey findings unearth perceptions of the respondents on aspects of the HKATRP that enrich our understanding of the assumptions of the projects identified by Ho (2015) in his mode 2 SAST exercise. It offers an additional perspective, within the soft systems thinking focus on values and perceptions, to inform the HKATRP discussion

and promote double-loop learning. Nevertheless, it remains the primary responsibility of the decision-makers and influential stakeholders of the HKATRP to make use of the findings provided here and in Ho (2015) to improve their decision-making process on the HKATRP. In particular, they are recommended to revise the existing HKATRP approach and plan to address the perceived assumption weaknesses of the HKATRP. Finally, readers are reminded of the limitations of the Facebook-based survey exercise (Ho, 2014), including its non-random sample and small sample size.

Concluding remarks

As a follow-up work on Ho (2015), this paper demonstrates how a self-reflective SAST exercise can be followed up by a Facebook-based survey to gain further knowledge to inform decision-making on a wicked problem, such as that of the HKATRP. In this sense, the paper contributes some academic value to the SAST subject. The findings as reported here, together with those from Ho (2015), also provide an additional perspective, supported by empirical survey data on perceptions, to inform the HKATRP debate. As this kind of debate is of significant public concern in Hong Kong, the study also has clear practical value. Lastly, this paper has stressed the methodological value of the SAST in promoting double-loop learning. What could also be attempted is to study the HKATRP with the triple-loop learning approach of Flood and Romm (1996). The triple-loop learning approach is expected to further foster a more critical and holistic comprehension on the HKATRP.

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APPENDIX

Appendix 1: The Facebook-based survey questions (19 questions) and responses statistics, from December 4 to 8, 2015.

Survey questions	Survey statistics
Question 1: What is your gender?	Male: 33 (%) Female: 57 (%) Standard Deviation: 12 Responses: 90
Question 2: What is your age?	18 to 27: 3 (3.33%) 28 to 37: 39 (43.33%) 38 to 47: 36 (40%) 48 to 57: 12 (13.33%) 58 to 67: 0 (0%) 68 or above: 0 (0%) Standard Deviation: 16.43 Responses: 90
Question 3: What is your education background?	Not yet a degree-holder: 14 (15.56%) Finished University Undergraduate Degree

	study: 58 (64.44%) Finished Master Degree study: 17 (18.89%) Finished Ph.D. Degree study (or equivalent): 1 (1.11%) Standard Deviation: 21.36 Responses: 90
Question 4: What is your perceived own social class?	Upper class: 2 (2.25%) Middle class: 53 (59.55%) Lower class: 28 (31.46%) Not applicable/ no idea: 6 (6.74%) Standard Deviation: 20.33 Responses: 89
Question 5: Do you feel that you are sufficiently familiar with the nature and debates about the Hong Kong third runway project?	Yes, I strongly feel this way: 11 (12.22%) Yes, I mildly feel this way: 42 (46.67%) No, I do not feel this way: 32 (35.56%) No comments: 5 (5.56%) Standard Deviation: 15.07 Responses: 90
Question 6: Do you feel that you have been paying sufficient attention on learning the nature and debates about the Hong Kong third runway project?	Yes, I strongly feel this way: 4 (4.44%) Yes, I mildly feel this way: 45 (50%) No, I do not feel this way: 40 (44.44%) No comments: 1 (1.11%) Standard Deviation: 20.11 Responses: 90
Question 7: Do you feel that you have high confidence in the project management competence of the HK Airport Authority (AAHK) to manage the runway project?	Yes, I strongly feel this way: 7 (7.78%) Yes, I mildly feel this way: 30 (33.33%) No, I do not feel this way: 47 (52.22%) No comments: 6 (6.67%) Standard Deviation: 17.1 Responses: 90
Question 8: Do you feel that high management competence of the HK Airport Authority to manage the runway project is important for the runway project success?	Yes, I strongly feel this way: 34 (37.78%) Yes, I mildly feel this way: 40 (44.44%) No, I do not feel this way: 14 (15.56%) No comments: 2 (2.22%) Standard Deviation: 15.26 Responses: 90
Question 9: Do you feel that the Guangdong Airport Authority and the PRC military will work out a satisfactory airspace arrangement with the Hong Kong Airport Authority? [Satisfactory to all parties concerned.]	Yes, I strongly feel this way: 4 (4.44%) Yes, I mildly feel this way: 21 (23.33%) No, I do not feel this way: 57 (63.33%) No comments: 8 (8.89%) Standard Deviation: 20.89 Responses: 90
Question 10: Do you feel that a satisfactory airspace arrangement to all parties concerned is important for the success of the	Yes, I strongly feel this way: 34 (37.78%) Yes, I mildly feel this way: 35 (38.89%) No, I do not feel this way: 17 (18.89%) No comments: 4 (4.44%)

third runway project of Hong Kong?	Standard Deviation: 12.85 Responses: 90
Question 11: Do you feel that the Hong Kong Government and the Hong Kong Airport Authority have released sufficient information to the society to enable it to make appropriate judgment on the runway project investment?	Yes, I strongly feel this way: 4 (4.44%) Yes, I mildly feel this way: 9 (10%) No, I do not feel this way: 69 (76.67%) No comments: 8 (8.89%) Standard Deviation: 26.91 Responses: 90
Question 12: Do you feel that gaining broad-based trust and support from the Hong Kong society is important for the 3rd runway project success?	Yes, I strongly feel this way: 32 (35.96%) Yes, I mildly feel this way: 32 (35.96%) No, I do not feel this way: 16 (17.98%) No comments: 9 (10.11%) Standard Deviation: 10.06 Responses: 89
Question 13: Do you feel that the Hong Kong Government and the Hong Kong Airport Authority should also seriously evaluate the alternative plan of building a new airport at the southern end of Lamma Island?	Yes, I strongly feel this way: 30 (33.33%) Yes, I mildly feel this way: 27 (30%) No, I do not feel this way: 25 (27.78%) No comments: 8 (8.89%) Standard Deviation: 8.56 Responses: 90
Question 14: Do you feel that the Hong Kong society is under tremendous time pressure to upgrade our Airport capacity one way or another?	Yes, I strongly feel this way: 13 (14.44%) Yes, I mildly feel this way: 38 (42.22%) No, I do not feel this way: 29 (32.22%) No comments: 10 (11.11%) Standard Deviation: 11.5 Responses: 90
Question 15: Do you feel that building the third runway is the fastest way to upgrade our Airport capacity in Hong Kong?	Yes, I strongly feel this way: 14 (15.56%) Yes, I mildly feel this way: 28 (31.11%) No, I do not feel this way: 43 (47.78%) No comments: 5 (5.56%) Standard Deviation: 14.4 Responses: 90
Question 16: Do you feel that building the third runway is the most cost-effective way to upgrade our Airport capacity in Hong Kong?	Yes, I strongly feel this way: 14 (15.56%) Yes, I mildly feel this way: 27 (30%) No, I do not feel this way: 39 (43.33%) No comments: 10 (11.11%) Standard Deviation: 11.41 Responses: 90
Question 17: Do you feel that building the third runway is politically the most acceptable way to upgrade our Airport capacity in Hong Kong?	Yes, I strongly feel this way: 19 (21.35%) Yes, I mildly feel this way: 36 (40.45%) No, I do not feel this way: 29 (32.58%) No comments: 5 (5.62%) Standard Deviation: 11.65 Responses: 89
Question 18: Do you feel that the	Yes, I strongly feel this way: 10 (11.11%)

third runway is the most acceptable way to upgrade our Airport capacity in Hong Kong in terms of environmental/ ecological impact to Hong Kong?	Yes, I mildly feel this way: 27 (30%) No, I do not feel this way: 44 (48.89%) No comments: 9 (10%) Standard Deviation: 14.33 Responses: 90
Question 19: Do you feel that the Hong Kong Airport third runway project will be a successful one ultimately?	Yes, I strongly feel this way: 12 (13.33%) Yes, I mildly feel this way: 27 (30%) No, I do not feel this way: 37 (41.11%) No comments: 14 (15.56%) Standard Deviation: 10.16 Responses: 90

Appendix 2: Coding scheme used for the Excel-based multiple regression analysis.

I. Age group

18 to 27:   22.5
28 to 37:   32.5
38 to 47:   42.5
48 to 57:   52.5
58 to 67:   62.5
68 or above: 72.5

II. Gender

Female: 1
Male: 2

III. Education background

Not yet a degree-holder: 1
Finished University Undergraduate Degree study: 2
Finished Master Degree study: 3
Finished Ph.D. Degree study (or equivalent):   4

IV. Perceived own social class

Lower class: 1
Middle class: 2
Upper class: 3

V. Intensity of feeling

No, I do not feel this way: 1
Yes, I mildly feel this way: 2
Yes, I strongly feel this way: 3

Appendix 3: Excel multiple regression analysis report on the proposed regression formula.

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.875316352
R Square	0.766178717

Adjusted R Square	0.681152796		
Standard Error	0.390107775		
Observations	46		

ANOVA

	df	SS	MS	F
Regression	12	16.45618635	1.37134886	9.011119269
Residual	33	5.022074519	0.15218408	
Total	45	21.47826087		

	Coefficients	Standard Error	t Stat	P-value
Intercept	0.787358063	0.524852701	1.50015054	0.143083026
Gender	0.084241882	0.141345079	0.59600152	0.555240528
Age group	-0.017134696	0.008765667	-1.9547509	0.059127464
Education background	-0.140109091	0.113023628	-1.2396443	0.223850507
Perceived own social class	0.007855384	0.137302453	0.05721227	0.954721132
Familiarity with the HKATRP	-0.130246466	0.110379631	-1.1799864	0.246442067
Confidence in project mgt competence of AAHK	0.516889794	0.1256319	4.11431965	0.00024294
Confidence that a satisfactory airspace arrangement will be worked out	0.208130039	0.136991904	1.51928715	0.138214115
Perceived sufficiency of project information released	0.034623972	0.174364712	0.19857213	0.843815779
Perceived HKATRP desirability in speed	0.015679454	0.158401521	0.0989855	0.92174864
Perceived HKATRP desirability in cost-effectiveness	0.182821469	0.118940936	1.53707778	0.133808278
Perceived HKATRP desirability in political acceptability	-0.022521386	0.096662396	-0.2329901	0.817208185
Perceived HKATRP desirability in ecological impact	0.332016032	0.169858141	1.95466658	0.059137835

Comments on the regression analysis statistics

x variables	b value and [comments]	p-value and [comments]
Gender (x1)	0.0842 [*Gender* has slightly positive correlation with the y variable.]	0.5552 (or 27.7620% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Age group (x2)	-0.0171 [*Age group* has very weak negative correlation with the y variable.]	0.0591 (or 2.9563% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Education background (x3)	-0.1401 [*Education background* has weak negative correlation with the y variable.]	0.22385 (or 11.1925% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Self-perceived	0.0079	0.9547 (or 47.7361% on each side)

social class (x4)	[*Self-perceived social class* has negligible positive correlation with the y variable.]	[With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Familiarity with the HKATRP (x5)	-0.1302 [*Familiarity with the HKATRP* has weak negative correlation with the y variable.]	0.2464 (or 12.3221% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Confidence in project management competence of AAHK (x6)	0.5169 [*Confidence in project management competence of AAHK* has some positive correlation with the y variable.]	0.0002 (or 0.012% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is rejected.]
Confidence that a satisfactory airspace arrangement will be worked out (x7)	0.2081 [*Confidence that a satisfactory airspace arrangement will be worked out* has some positive correlation with the y variable.]	0.1382 (or 6.9107% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Perceived sufficiency of project information released (x8)	0.0346 [*Perceived sufficiency of project information released* has some positive correlation with the y variable.]	0.8438 (or 42.1908% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Perceived HKATRP desirability in speed (x9)	0.0157 [*Perceived HKATRP desirability in speed* has weak positive correlation with the y variable.]	0.9217 (or 46.0874% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Perceived HKATRP desirability in cost-effectiveness (x10)	0.1828 [*Perceived HKATRP desirability in cost-effectiveness* has weak positive correlation with the y variable.]	0.1338 (or 6.6904% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Perceived HKATRP desirability in political acceptability (x11)	-0.0225 [*Perceived HKATRP desirability in political acceptability* has weak negative correlation with the y variable.]	0.8172 (or 40.8604% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]
Perceived HKATRP desirability in ecological impact (x12)	0.3320 [*Perceived HKATRP desirability in ecological impact* has weak positive correlation with the y variable.]	0.05914 (or 2.9569% on each side) [With the critical value of 5% (or 2.5% on each side), the null hypothesis that the b value be zero is not rejected.]