A Study on Determinants that affect Klang Valley (Malaysia) consumer preference in airline industry

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Abstract. This study aims to determine the effects that Klang Valley (Malaysia) consumer preferences in airline industry. The primary data were collected through survey questionnaire for this research purposes. Descriptive research design and convenient sampling is sued to conduct the survey. The obtained data were evaluated for descriptive analysis, reliability analysis, normality test, correlation analysis and regression analysis. Major findings of this research project were discussed in order to understand the affects that Klang Valley (Malaysia) consumer preferences in airline industry. The finding of this study shows that the independent variables such as airline reputation, service quality, environmental concern and especially flight fares have most significant relationship toward the consumer preference of airline transport in Klang valley.

1. INTRODUCTION
Diverse techniques and measurements are being utilized to investigates the effect of administration gave via air carrier to their travellers on the decision of airline choice while making on a choice for travelling. Klang valley is an area in Malaysia, which is located in Kuala Lumpur. According to Kuala Lumpur Population 2017, Klang Valley is a large urban agglomeration with an estimated population of 7.2 million in 2016 with a population density that is nearly equal to that of the city proper [1]. There is a variety of transport model choices such as air, water, and land transport, which includes rail, road and off-road transport. Therefore, consumer’s preferences towards air transportation rely on 4 factors which are flight fares, service quality, airline reputation and environmental concern.

Flight fares defined as the cash a man pays to go on airplane. According to Alamdari (1999), the key variables impacting travellers flying for business are reliability, punctuality, schedules, and seating comfort [2]. Travellers flying for recreation showed that value, seating comfort, unwavering quality, and dependability are most critical to them. In-flight diversion is a separating factor that adds to fulfillment with aircraft benefit.

Service quality defines is an accomplishment in customer service. In the airline business setting the problem is whether organization can see effectively what passengers need and anticipate. Park (2007) revealed that factors such as in-flight and employee service are determinants that affect passengers decision while selecting their choice of airline [3]. For instance, passengers who travel for leisure, they would emphasize on the seating comfort [4]. Also, in-flight entertainment is more concerned by passengers who travel for long distance. If these tangibles are insufficient, passengers would feel dissatisfied with the service provided by the carrier.

According to Graham and Bansal, corporate reputation can be situated as the perception of consumer about the airline’s overall operation such as safety, financial performance, size and age of
the airline [5]. A number of studies found that a good reputation could retain and attract the customers to utilize their services again [6]. The flight occupational in Malaysia is ruled by two aircrafts. These are Malaysia Airlines and Air Asia. As indicated by O'Connell and Williams (2005), Malaysia Airlines has been named a full organized aircraft while Air Asia has been deputized an ease carrier [7]. Malaysia Airlines, the national carrier of Malaysia is serving both universal and residential courses crosswise over 100 goals around the world (counting code-sharing flights). It has one of the biggest armada sizes in South East Asia and is one of just six aircrafts to have been granted a 5-star rating by Skytrax.

Environment concern can be defined as a general attitude towards one’s own or others’ behaviors with consequences for the environment [8, 9]. According to the previous researchers, they stated people from different country may differ in requirement of service quality [10]. However, regarding to the environmental protection, people from different countries have mutual consensus to eliminate and reduce the adverse effect caused by environmental degradation [11]. Moreover, based on research conducted by Stefanica and Butnaru (2015), majority of the respondents believed that pro-environmental attitude and adequate behaviour leads to improvement of environment [12].

Therefore this study considered four main factors namely flight fares, service quality, airline reputation and environmental concern to identify the consumer preference in airline industry in Klang Valley, Malaysia.

2. METHODOLOGY

There are three types of research design can be utilize in the research, namely exploratory, descriptive and exploratory studies. Exploratory study is described as to discover new ideas and information by asking open question to collect statistically accurate data. Descriptive study is conducted to acquire a detail profile of events, persons or situations and explanatory is to establish causal relationship between variable. This study falls under the category of explanatory as to discover the relationship between flight fares, service quality, airline reputation, environmental concern and consumer perception while selecting their preference airline. In this study, quantitative method is used to examine the relationship between both variables [13].

2.1. Hypothesis

H1: There is a significant relationship between flight fares and consumer preference towards airline transport in Klang valley.

H2: There is a significant relationship between airline reputation and consumer preference towards airline transport in Klang valley.

H3: There is a significant relationship between service quality and consumer preference towards airline transport in Klang valley.

H4: There is a significant relationship between environmental concern and consumer preference towards airline transport in Klang valley.

2.2. Data Collection

This study used convenience sampling method for data collection. Convenience sampling is also known as availability sampling where it relies on data collection from population members who are available to participate in the study conducted. This study used convenience sampling method, by distributing questionnaires to individuals which happens to be our respondents as well [14].

Convenience sampling is simple and eases to implement. There is none complexion in conducting convenience sampling compares to other types of sampling method. It is helpful for pilot studies and to generate hypothesis. Next, data collection can be ready within short time period. Also, convenience sampling is the cheapest sampling method available to conduct the study.
2.3. Sampling Design

2.3.1. Target Population
In this study, the target population is the consumers who stay around Klang Valley area, and have utilized and experience airline service in recent years.

2.3.2. Sampling Location
In this study, Klang Valley airline consumers are being observed. Therefore, data collection process was conducted in Klang Valley area by distributing questionnaires to respondent. In order to obtain accurate data, a confirmation of respondent nationality would be done before they started filling up the questionnaire.

2.3.3. Sampling Size
The total population of Klang Valley area is approximately 7.2 million. According to Krejcie & Morgan (1970), 384 of sample size is required when the target population has greater than 1 million [15].

2.3.4. Sampling Technique
Convenient sampling technique is utilized in this study. Hence, questionnaires were distributed to respondent around Klang Valley area to be filled up, until the required amount of samples reached.

2.4. Variable Measure
The questionnaire is categorized into three sections, which are section A (Social Demographic Profile), section B (factors that affect consumer preference in airline industry), and section C (consumer preference in airline industry).

In section A, general questions such as demographic information of the respondent in terms of gender, age, academic level, race, monthly income level and employment status are determined by using the Nominal, Ordinal and Ratio Scale.

Then, in section B, ranks of the respondent main concern, such as flight fares, service quality, airline reputation, and environmental concern are examine by using the 5-points likert scales starting with 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly disagree.

Lastly, section C consist questions of dependent variables which is consumer preference towards air transport. In this section, questions were asked to obtain consumer perception towards airline industry. 5-points likert scales starting with 1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5=strongly disagree would be utilize in this section as well.

2.5. Pilot Testing
Pilot testing refers to a small-scale testing that conducted by the researchers prior to the actual research [16]. It allows researchers to test the validity of survey instrument before conducting the main study. In this study, pilot testing is carried out to evaluate whether dependent variables have direct relationship with independent variables. Samples of target respondent (n=30) were involved in the pre-test to examine the feasibility and suitability of this research. By doing so, this study can runs smoothly, therefore improve output from the studies.

2.6. Data Analysis Method

2.6.1. Descriptive Analysis
Descriptive analysis is the basic method for statistical analysis. Descriptive analysis involves in transferring raw data into useful information that enable readers to easily understand, interpret, and rearrange.
2.6.2. **Correlation Analysis**
Correlation analysis is one of the data analysis method use in quantitative research to examine the relationship between both variables. The Pearson’s Moment Correlation Coefficient (PMCC) ranges between +1 and -1. If the coefficient falls at +1 and -1, it indicates that the relationships between both variables are strong. A value of +1 indicates that there is a positive relationship between variables, means that an increase in A will directly affect an increase in B. In contrast, a value of -1 indicate that there is a negative relationship between variables, means that an increase in A will directly affect a decrease of B. However, when the coefficient falls between +1 and -1, it means that the relationship between variables is weak. A value of 0 represents that both variables are completely independent. It means that variables have no relationship between each other. Data collected from respondents can be generated by using Statistical Package for the Social Sciences (SPSS) software.

2.6.3. **Normality Test**
Normality test is a data analysis method which examines if the samples or data fits the normal distribution. When the probability (p-value) is greater than 0.05 during the normality test, the data will be considered as normal, so do not reject the null hypothesis. In contrast, if the probability (p-value) is lesser than 0.05 during the normality test, the data will be considered as abnormal; therefore reject the null hypothesis.

2.6.4. **Reliability Analysis**
Reliability test is used to examine the internal consistency and reliability of a set of scale or test equipment. Internal consistency test compares the same instrument to ensure that the existing of correlation between two instrument. Hence, Cronbach’s alpha reliability analysis method will be used to calculate the concentration and direction of the relationship between two variables. The value of Cronbach’s alpha ranges from 0 to 1, where the higher the coefficient is, the more the items have shared covariance [17]. In contrast, the lower the coefficient is, the lesser the information are correlated.

2.6.5. **Regression Analysis**
Regression Analysis is an analysis technique that can be used to identify the relationship between variables. It can be then categorize into two sections which is simple linear regression and multiple linear regression. Simple linear regression is conducted to examine the relationship between one independent and dependent variable, whereas multiple linear regression is carry out to determine the relationship between several independent variables and a dependent variable. Since this study involve more than 1 independent variable, so multiple regression analysis is used in this study.

3. RESULT AND DISCUSSION
All of the collected data from survey method will be processed using SPSS version 22 and analyses.

3.1. **Pilot Test**
The first approach of data analysis was started on carry out pilot testing. The purpose of doing pilot testing is to ensure the feasibility of an approach that will be conducted in a larger scale study. Hill suggested that 10 to 30 sample size is needed to conduct pilot test in survey research and the numbers of sample size is sufficien to test hypothesis and easy to be calculate [18].

3.1.1. **Reliability Test**
Reliability test is used to examine the internal consistency and reliability of a set of scale or test equipment. It ranges from 0 to 1, where the higher the coefficient is, the more the items have shared covariance. Table 1 shows the Cronbach’s alpha value for items under flight fare was 0.869. It indicates that the items have good reliability. Then, items in service quality have a value of 0.902. It obtained the highest Cronbach’s value among all and indicated an excellent reliability. Besides, airline
reputation has Cronbach’s alpha value of 0.876. Mean the items under airline reputation have good reliability as well. Furthermore, Cronbach’s alpha value for items laid under environmental concern shows a value of 0.851. It indicates that the items have good reliability too. Also, the Cronbach’s alpha value in consumer preference was 0.898. The results indicated to be good reliability as it is greater than 0.8. Since all of the items fall in a Cronbach’s alpha value range between 0.8 and 1, thus it represents that the items in variables are highly reliable.

Table 1. Reliability Test for Independent Variables and Dependent Variables

| Factors                                    | Cronbach’s Alpha |
|--------------------------------------------|-------------------|
| Independent Variable – Flight Fares        | 0.869             |
| Independent Variable – Service Quality     | 0.902             |
| Independent Variable – Airline Reputation  | 0.876             |
| Independent Variable – Environmental Concern | 0.851        |
| Dependent Variable – Consumer Preference   | 0.930             |

3.1.2. Normality Test

Normality test is conducted to examine whether the data fits the normal distribution. The data is considered as normally distributed if the skewness and kurtosis values falls between the range of -1.96 to +1.96 [16]. Table 2 shows the flight fare (independent variable) has a skewness and kurtosis value of -0.757 and 0.096. Then, skewness and kurtosis value of service quality (independent variable) is -1.025 and 1.325. Besides, airline reputation (independent variable) has a skewness and kurtosis value of -1.168 and 1.529. Moreover, skewness and kurtosis value of environmental concern (independent variable) is -1.025 and 1.325. Also, skewness and kurtosis value of consumer preference (dependent variable) is -0.629 and -0.951.

Table 2. Normality Test for Dependent Variables and Independent Variables

| Variables                                      | Skewness | Kurtosis |
|------------------------------------------------|----------|----------|
| IV1 Independent Variable – Flight Fares        | -0.757   | 0.096    |
| IV2 Independent Variable – Service Quality     | -1.025   | 1.325    |
| IV3 Independent Variable – Airline Reputation  | -1.168   | 1.529    |
| IV4 Independent Variable – Environmental Concern | -0.636  | -0.406   |
| DV Dependent Variable – Consumer Preference    | -0.629   | -0.951   |

3.2. Descriptive Analysis

The survey sample consists of total 384 respondents. Table 3 shows female respondents are accounted for 52.6% of total respondent whereas male respondents only accounted for 47.4% of total respondent. Majority of the respondents are from age between 19 to 25 years old about 74%. Regarding the ethnic, Chinese and Indian are the most represented by 51.3% and 43% respectively. The rest of the respondents are Iranian, Mauritian, Armenian and Punjabi which accounted only 1% of total respondent. Most of the respondents are single status about 78.6%. Majority of the respondents are with Bachelor Degree about 63.5% and there are 0.8% of them obtained their professional certificate by taking some special courses. Most of the respondents about 67.2% in this study have income less than RM1000 and majority of them about 68.8% are student.

Table 3. Demographic information of the respondents

| Items            | Category | Frequency (n) | Percentage (%) |
|------------------|----------|---------------|----------------|
| Gender           | Male     | 182           | 47.4           |
|                  | Female   | 202           | 52.6           |
| Age (Years old)  | Less than 18 | 9        | 2.3            |
|                  | 19 – 25   | 284           | 74.0           |
|                  | 26 – 35   | 37            | 9.6            |
|                  | 36 – 45   | 27            | 7.0            |
3.2.1. Experienced Airline Service in recent years
Figure 1 shows majority respondents only use airline service once a year. Also, it shows that 45.6% of total respondent flying by plane once in a year. Then, there are 37.5% of total respondents fly by plane 2 to 3 times in a year. Besides, 10.7% of total respondents fly by plane 4 to 5 times within a year. Next, respondents who fly by plane 6 to 7 times in a year accounted 2.1% of total respondents. Lastly, a total of 4.2% respondents fly by plane more than 8 times in a year.

Figure 2 shows that about 76.6% of total respondents are leisure travellers. Then, 6.5% of total respondents travelled due to business or official matters. Next, the table stated 8.9% of total respondents travelled for study purposes. Also, 0.5% of respondents travelled for urgent matters. In addition, there are 6.8% of total respondents travelled due to family issues. The rest of the respondents travelled for pilgrimage, which only accounted only 0.8% of total respondents.

| Ethnic      | 46 – 55 | 56 and above | 5 | 1.3 |
|-------------|---------|--------------|---|-----|
| Malay       | 18      |              | 4.7 |
| Chinese     | 197     |              | 51.3|
| Indian      | 165     |              | 43.0|
| Other       | 4       |              | 1.0 |
| Marital     |         |              |    |     |
| Single      | 302     |              | 78.6|
| Married     | 77      |              | 20.1|
| Divorced/ Widowed/ Separated | 5 | 1.3 |
| Highest Education Level |         |              |    |     |
| Secondary School | 48 |              | 12.5|
| Foundation   | 7       |              | 1.8 |
| Diploma      | 61      |              | 15.9|
| Bachelor Degree | 244 |              | 63.5|
| Master       | 19      |              | 4.9 |
| PhD          | 2       |              | 0.5 |
| Other        | 3       |              | 0.8 |
| Income (RM)  |         |              |    |     |
| 0 – 1000    | 258     |              | 67.2|
| 1001 – 3999 | 56      |              | 14.6|
| 4000 – 7999 | 31      |              | 8.1 |
| 8000 and above | 39 |              | 10.2|
| Employment Status |         |              |    |     |
| Employed for wages | 69 |              | 18.0|
| Self-employed | 36 |              | 9.4 |
| Student      | 264     |              | 68.8|
| Retired      | 3       |              | .8  |
| Other        | 12      |              | 3.1 |

Figure 1. Respondents’ Frequency Flying By Plane
Figure 2. Respondents’ Travel Purpose
3.3. Reliability Test
According to Table 4, Cronbach’s Alpha Value for items under flight fare was 0.887. It indicates that
the items have good reliability. Next, items under Service Quality have a value of 0.908, follow by
airline reputation which has a value of 0.884. Both of the variables has a Cronbach’s Alpha value
exceeded 0.8, which means that the items has excellent reliability. Besides, Cronbach’s alpha value for
items laid under environmental concern shows a value of 0.794. The items in Environmental concern
have the least value among all. However, the items are still acceptable as long as it exceeds 0.7 [19].
Moreover, items in dependent variable have a Cronbach’s Alpha value of 0.931. It has the highest
value among all and shows an excellent reliability.

| Table 4. Reliability Test for Independent Variables and Dependent Variables (N=384) |
|--------------------------------------------------|
| Factors                                      | Cronbach’s Alpha |
| Independent Variable – Flight Fares           | 0.887            |
| Independent Variable – Service Quality        | 0.908            |
| Independent Variable – Airline Reputation     | 0.884            |
| Independent Variable – Environmental Concern  | 0.794            |
| Dependent Variable – Consumer Preference      | 0.931            |

3.4. Normality Test
Table 5 shows the flight fare (independent variable) has a skewness and kurtosis value of 0.005 and
0.439. Then, skewness and kurtosis value of service quality (independent variable) is -0.417 and
-0.879. Besides, airline reputation (independent variable) has a skewness and kurtosis value of 0.119
and -0.543. Moreover, skewness and kurtosis value of environmental concern (independent variable)
is 0.107 and -0.287. Also, skewness and kurtosis value of consumer preference (dependent variable) is
0.132 and -0.841.

| Table 5. Normality Test for Dependent Variables and Independent Variables (N=384) |
|--------------------------------------------------|
| Variables                                      | Skewness | Kurtosis |
| IV1 Independent Variable – Flight Fares        | 0.005    | 0.439    |
| IV2 Independent Variable – Service Quality     | -0.417   | -0.879   |
| IV3 Independent Variable – Airline Reputation  | 0.119    | -0.543   |
| IV4 Independent Variable – Environmental Concern| 0.107    | -0.287   |
| DV Dependent Variable – Consumer Preference    | 0.132    | -0.841   |

3.5. Pearson’s Correlation Analysis
Based on the summarize correlation result shown in Table 6, it illustrate a significant relationship
between flight fare and consumer preference (r=0.868, r>0.5). This result shows a strong relationship
between flight fares and consumer preference. Also, it has the highest correlation value among other
variables, which indicate that consumers are really concern with flight fares. Then, the relationship
between service quality and consumer preference is strong (r=0.792, r>0.5). It clarified a significant
relationship between two of the variables. Furthermore, there is a significant relationship between
airline reputation and consumer preference (r=0.778, r>0.5). Airline reputation has the least correlation
value among all, which indicate that the respondents put less concern on the airlines’ reputation
compare to other variables. However, it still shows a strong relationship between the two variables.
Lastly, the strength of relationship between environmental concern and consumer preference is strong
(r=0.832, r>0.5). It shows a significant relationship.

| Table 6. Summary result of correlation |
|---------------------------------------|
| Variables                             |
| IV1 Flight Fares                      | 0.868 |
| IV2 Service Quality                   | 0.792 |
| IV3 Airline Reputation                | 0.778 |
| IV4 Environmental Concern             | 0.832 |
3.6. Multiple Linear Regression Analysis

The multiple correlation coefficients (R), is an estimation of the combined influence of two or more independent variables on the dependent variable. According to Table 7, the value of R is 0.905. The correlation between criteria variable (consumer preference) and the linear combination between the four predictors (flight fare, service quality, airline reputation and environmental concern) variables is 0.905. This indicated that both the independent and dependent variables have a strong positive relationship between each other.

Next, R-squared is a statistical measure of how nearly the data are fitted into the regression line. R-squared ranges from 0% to 100%, the higher the R-square obtained in research, the better the model fit the data. Based on Table 7, the R-square value is 0.819. It indicates that the four predictors, which is flight fare, service quality, airline reputation, and environmental concern contributed to 81.9% of the variance in the consumer preference criterion variable. The remaining 18.1% (100% - 18.1% = 18.1%) of change cannot be predicted as it may be caused by other variables that were not studied in this research.

Then, the adjusted R square is 0.817. Lastly, standard error gives a value of 1.141, which provides an indication of how much the point estimate is likely to vary from the corresponding population parameter.

| Model Summary |
|---------------|
| Model | R  | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|----|----------|-------------------|----------------------------|
| 1     | .905 | .819     | .817              | 1.14106                    |
| a. Predictors: (Constant), Flight Fare, Service Quality, Airline Reputation, Environmental Concern
| b. Dependent Variable: Consumer Preference |

3.6.1. Coefficients in Regression Analysis

The unstandardized regression coefficients β shows the amount change of dependent variable (y) correspond to 1 unit change in independent variable. Next, standardized Beta coefficient compares the strength of impact of independents variable on dependent variable. It can be positive or negative. If the beta coefficient is positive, for every 1 unit increase in the independent variable, the dependent variable will increase by the beta coefficient value. If the beta coefficient is negative, for every 1 unit increase in the independent variable, the outcome variable will decrease by the beta coefficient value.

T value shows a good result if the data falls above +2 or below -2. Table 8 shows the t value for flight fare (IV1) is 11.715, follow by service quality (IV2) 10.026, airline reputation (IV3) 3.860 and environmental concern 8.615 (IV4). It shows that all the t value is good since the data are all above +2. Therefore, the beta coefficient was statistically significant, and it is able to conclude the statement mentioned above.

| Table 8. Coefficients of Regression Analysis |
|---------------------------------------------|
| Model | Unstandardized Coefficients | Standardized Coefficients | t | Sig. |
|-------|-------------------------------|---------------------------|---|-----|
| B     | Std. Error                    | Beta                      |   |     |
| (Constant) | 2.287 | .386                      | 5.922 | .000 |
| IV1 (Flight Fare) | .818 | .070                      | .907 | 11.715 | .000 |
| IV2 (Service Quality) | .336 | .034                      | .424 | 10.026 | .000 |
| IV3 (Airline Reputation) | .070 | .018                      | .086 | 3.860 | .000 |
| IV4 (Environmental Concern) | .464 | .400                      | .765 | 8.615 | .000 |
| a. Dependent Variable: DVa |

3.6.2. Multiple Regression Equation

Model of multiple linear regression equation is Y = X1 + X2 + X3 + X4 + C

Y (Consumer Preference) = X1 (Flight Fares) + X2 (Service Quality) + X3 (Airline Reputation) + X4 (Environmental Concern) + C
Y (Consumer Preference) = X1 (0.818) + X2 (0.336) + X3 (0.070) + X4 (0.464) + C (2.287)

Table 8 shows the flight fares increase in one unit, it would result an increase of 0.818 unit on consumer preference. Moreover, if service quality increase in one unit, it would result an increase of 0.336 unit on consumer preference. Furthermore, if airline reputation increases in one unit, it would result an increase of 0.070 unit on consumer preference. Lastly, if environmental concern increases in one unit, it would result an increase of 0.464 unit on consumer preference.

Table 8 shows the flight fare (IV1) has the highest beta value among all the variables, which has a value of 0.818. This indicated that flight fare has the most impact on consumer preference. However, airline reputation (IV3) obtained the lowest beta value among all other independent variables, which only has a value of 0.070. It means that airline reputation has the least influential effect toward consumer preference.

4. CONCLUSION
The consumer preferences towards airline transportation have made a major impact to the perception of consumers in Klang Valley, Malaysia corresponding to the growth of the city. The obtained result shows that the independent variables (flight fares, airline reputation, service quality and environmental concern) have significant relationship toward the consumer preference of airline transport in Klang valley. This study shows, flight fares are an important determinant with regards to picking a specific brand of airline transportation.

References
[1] Wahab, S.N., Sham, R., Hussin, A.A.A, Ismail, S., & Rajendran, S.D. (2018). Urban Transportation: An Analysis on Bike Sharing Usage in Klang Valley. International Journal of Supply Chain Management, 7(5), 470-476.
[2] Fariba Alamdari 1999. Airline in-flight entertainment: the passengers’ perspective. Journal of Air Transport Management, 5 (1999), 203-209.
[3] Park, J. W. 2007. Passenger perceptions of service quality: Korean and Australian case studies. Journal of Air Transport Management, 13 (4), 238-242.
[4] Chen, H. and Chao, C. 2015. Airline choice by passengers from Taiwan and China : A case study of outgoing passengers from Kaohsiung International Airport. Journal of Air Transport Management, 49, 53–63. https://doi.org/10.1016/j.jairtraman.2015.08.002
[5] Selvachandran, G., Quek S. G., Smarandache, F. and Broumi, S. 2018. An extended technique for order preference by similarity to an ideal solution (TOPSIS) with maximizing deviation method based on integrated weight measure for single-valued neutrosophic sets. Symmetry, 10, 236-252. DOI: 10.3390/sym10070236.
[6] Selvachandran, G. and Peng, X. D. 2018. A modified TOPSIS method based on vague parameterized vague soft sets and its application to supplier selection problems. Neural Computing and Applications, 1-16. DOI: https://doi.org/10.1007/s00521-018-3409-1.
[7] Graham, M. E. 2007. Consumers’ Willingness to Pay for Corporate Reputation : The Context of Airline Companies, 10(3), 189–200. https://doi.org/10.1057/palgrave.crr.1550052
[8] Dolnicar, S., Grabler, K., Grun, B. and Kulnig, A. 2011. Key drivers of airline loyalty. Tourism Management, 32 (5), 1020-1026.
[9] O’Connell, J. F. and Williams, G. 2005. Passengers’ perceptions of low cost airlines and full service carriers: a case study involving Ryanair, Aer Lingus, Air Asia and Malaysia Airlines. Journal of air transport management, 11 (4), 259-272. DOI: 10.1016/j.jairtraman.2005.01.007
[10] Takala, M. 1991. Environmental awareness and human activity. International Journal of Psychology, 26 (5), 585-597. http://dx.doi.org/10.1080/00207599108247146
[11] Wahab, S.N., Bahar, N. & Mat Radzi, N.A. (2019). An Inquiry on Knowledge Management in Third-party Logistics Companies. International Journal of Business Innovation and Research, DOI: 10.1504/IJBIR.2020.10024101.
[12] Pantouvakis, A., Renzi, M. F., 2016. Exploring different nationality perceptions of airport service quality. *Journal of Air Transport Management*, 52 (2016) http://dx.doi.org/10.1016/j.jairtraman.2015.12.005.

[13] Karimini, S., Sh. Ahmad, S., Hashim, R., & Ismail, Z. (2018). A Global View on the Environmental Consequences of Antarctic Tourism. *Journal of ASIAN Behavioural Studies*, 3 (9), 1-10. doi:10.21834/jabs.v3i9.294

[14] Mirela Stefànica and Gina Ionela Butnaru. 2015. Research on tourists’ perception of the relationship between tourism and environment. 7th International Conference on Globalization and Higher Education in Economics and Business Administration, GEBA 201. *Procedia Economics and Finance*, 20 (2015), 595 – 600.

[15] Wahab, S.N, Olugu, E.U., Lee, W.C., & Tan, S.Y. (2018). Big data analytics adoption in Malaysia warehousing industry. *The 32nd International Business Information Management Association Conference, IBIMA 2018*, 2349-2365, 15-16 November, Seville Spain.

[16] Hew, J. J., Lee, V. H., Ooi, K. B. and Wei, J. 2015. What catalyses mobile apps usage intention: An empirical analysis. *Industrial Management & Data Systems*, 115(7), 1269–1291.

[17] Robert V. Krejcie and Daryle W. Morgan 1970. Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610.

[18] Chua, Y. P. 2012. Kaedah dan statistik penyelidikan: Asas statistik penyelidikan buku (2nd Edition) Kuala Lumpur: McGraw Hill (Malaysia).

[19] Hair, J. F. Jr., Babin, B., Money, A. H. and Samouel, P. 2003. Essential of business research methods. John Wiley & Sons: United States of America.

[20] Hill, R. 1998. What sample size is “enough” in internet survey research?. *Interpersonal Computing and Technology: An Electronic Journal for the 21st Century*, 6, 3-4.

[21] Sham, R., Wahab, S.N., Anuar, M.M., Tong, W.H. & Yap, J.T. (2019). Safety Indicator for Taxi Users in Urban Area. *International Journal of Supply Chain Management*, 8(2), 1035-1041.