



THE HONG KONG  
POLYTECHNIC UNIVERSITY  
香港理工大學

SCHOOL OF HOTEL AND TOURISM MANAGEMENT

11th APacCHRIE  
Youth Conference  
2020 27-28 October  
Hong Kong



# Proceedings of 11<sup>th</sup> APacCHRIE Youth Conference

27 - 28 Oct 2020 | The Hong Kong Polytechnic University



# MESSAGE FROM YOUTH CONFERENCE CHAIR

Welcome to the 11th APacCHRIE Youth Conference! As Youth Conference Chair, I would like to express our appreciation to those who had submitted their papers and presented their studies at the Conference.

Compared to previous ten Youth Conferences, the 11th Youth Conference held in Hong Kong this year is unique in that it is conducted in a hybrid format attended by both face-to-face and online delegates. At this conference, we received close to 90 papers authored by undergraduate students from around the Asia-Pacific region focusing in different research areas within the hospitality and tourism fields. Based on a rigorous double-blind review process with the help of 19 reviewers, 25 papers were selected for stand-up presentations. With the recommendations of the reviewers, a Best Paper was selected by a three-member Best Paper Selection Panel. We express kudos and congratulations to the Best Paper Awardees.

We thank both our reviewers, Best Paper Selection Panel members and the student team for devoting their time, effort and passion to make the paper review as smooth as possible. With the planned activities including research presentations and other programs during a two-day conference, I hope all of you will have a fruitful time!



**Dr. Henry Tsai**  
Youth Conference Chair  
School of Hotel and Tourism Management  
The Hong Kong Polytechnic University

# ACKNOWLEDGEMENT

## **Conference Advisory Committee**

Prof. Kaye Chon – APacCHRIE 2020 Conference Chair

Dr. Qu Xiao – APacCHRIE 2020 Program Chair

Prof. Sam Kim – APacCHRIE 2020 Paper Review Chair

Dr. Henry Tsai – 11th APacCHRIE Youth Conference Chair

Ms. Leslie Fung – Executive Officer (Conferences)

Ms. Pia Kwan – Advisor to Student Committee

Mr. Katsuto Sandifer – Advisor to Student Committee

## **Paper Review Team**

Miss Vania Chow

Miss Kitto Kwok

# REVIEWERS FOR ABSTRACTS/ PAPERS

Ms. Serena Bai

The Hong Kong Polytechnic University

Dr. Dave Chan

The Hong Kong Polytechnic University

Ms. Angela Chu

The Hong Kong Polytechnic University

Ms. Ada Fong

The Hong Kong Polytechnic University

Dr. Clare Fung

The Hong Kong Polytechnic University

Ms. Kate Law

The Hong Kong Polytechnic University

Ms. Sun Li

The Hong Kong Polytechnic University

Ms. Leana Lian

The Hong Kong Polytechnic University

Ms. Cecilia Ngwira

The Hong Kong Polytechnic University

Ms. Farisha Nisha

The Hong Kong Polytechnic University

Dr. Loretta Pang

The Hong Kong Polytechnic University

Mr. Fajar Kusnadi Kusumah Putra

The Hong Kong Polytechnic University

Ms. Nafiseh Rezaei

The Hong Kong Polytechnic University

Dr. Anne Tang

The Hong Kong Polytechnic University

Dr. Serena Tse

The Hong Kong Polytechnic University

Ms. Fangzhou Wan

The Hong Kong Polytechnic University

Mr. Joey Wu

The Hong Kong Polytechnic University

Ms. Cici Zhao

The Hong Kong Polytechnic University

Ms. Sophia Zhou

The Hong Kong Polytechnic University

# BEST PAPER SELECTION PANEL

Prof. Sam Kim

The Hong Kong Polytechnic University  
Paper Review Chair – APacCHRIE 2020 Conference

Dr. Jinsoo Lee

The Hong Kong Polytechnic University  
Managing Editor – Journal of Travel & Tourism Marketing

Dr. Bongkoshi Rittichainuwat

Siam University  
Director of Research - APacCHRIE

## Table of contents

### *Concurrent session 1-1A. HR Management and Training*

Exploring the Roles of Employee Commitments between Transformational Leadership and Turnover Intention.....	3
---	---

### *Concurrent session 1-1B. Restaurants and Hotel Management*

Customer co-creation value to hotel green practice.....	5
The adoption of green initiatives in Singapore hotel sector: investigation on green initiatives, barriers and re-motivators.....	26
Investigating the service quality between themed hotel and non-themed hotel in tourism industry: evidence in Macau.....	37
The impact of food culture and market trend on the development of themed restaurants in Hong Kong from customer perspective.....	38

### *Concurrent session 1-2. Tourist Behaviour*

Development and testing of tourism motivation scale: Based on Insta-famous perspectives of college students.....	53
Environmental knowledge and pro-environmental behavior of tourists in Swan Nature Reserve — Taking affection and personal norm as mediating variables.....	65
Measuring travelers' perceptions of green initiatives at hotels: an IPA analysis.....	81
Exploring the spatial-temporal structure of tourism market — A case study of Sanya.....	92
Motivation and satisfaction of tourists from Hong Kong and Macau to Chinese Mainland....	103
Factors influencing Muslims' willingness to visit Taiwan.....	119

### *Concurrent session 2-1. Destination Development*

Does China has the potential to become a wine tourism destination in perspectives of Hong Kong, Macau and Taiwan regions of China?.....	121
The influence of travel motivations of homosexual travellers on pink destination development in Hong Kong.....	142
The evolutionary characteristics of tourism public opinion crisis: the case of Guilin.....	156
Exploration study on the barriers to develop film-induced tourism in Hong Kong.....	174

### *Concurrent session 2-2. Tourism Development*

Residents' attitude explained by emotional well-being, emotional solidarity: the moderation of community attachment.....	191
Study on Air Travel Consumption Behavior and Influencing Factors Since the Coronavirus Pandemic.....	204

<b>Analysis of crisis management practices in handling COVID-19 disaster in China's chain hotels.....</b>	<b>214</b>
<b><i>Concurrent session 2-3A. Airport, Attraction and MICE</i></b>	
<b>Trend of International Arrivals at Chiang Mai International Airport.....</b>	<b>224</b>
<b>Customer experience, satisfaction and loyalty of Hong Kong's theme park.....</b>	<b>238</b>
<b>The development of Hong Kong based health conference: A case study of PolyU CPCE health conference.....</b>	<b>250</b>
<b><i>Concurrent session 2-3B. Technology in Tourism and Hospitality</i></b>	
<b>The trend of Augmented Reality (AR) and Radio Frequency Identification (RFID) in theme Park.....</b>	<b>261</b>
<b>The impact of Internet of Things (IoT) on customer experience in the hotel industry.....</b>	<b>273</b>

# Exploring the roles of employee commitments between transformational leadership and turnover intention

*Man Chun Cheung*

**Keywords:** Transformational Leadership, Value Organizational Commitment, Affective Occupational Commitment, Turnover Intention, Hong Kong Catering Industry, High Turnover Rate

The annual turnover rate of frontline workers remained high in Hong Kong F&B industry for the last three years. Some reported and reflected a moderated willingness to stay in the catering industry due to the work nature and low commitments to the company and industry (Hotel, Catering & Tourism Board – Vocational Training Council, 2015). Less motivated and committed workers would then bring a negative impact on companies' performance and business competitiveness in long term (Chen & Wu, 2017). Organizational and occupational commitment are two known factors to arouse or diminish turnover intention (Yousaf, Sanders & Abbas, 2015). Besides, considering non-monetary factors, transformational leadership was reported to have positive influences on both commitments and lower turnover intention (Tse, Huang & Lam, 2013). However, the relationships between these four variables were seldom investigated in the local academic field. Also, only a few studies have discussed the influences of transformational leadership in Hong Kong catering industry.

This research aims to investigate the relationship among organizational commitment, occupational commitment and turnover intention of hotel and catering employees in Hong Kong. In addition, the role of both commitments in the relationship between transformational leadership and turnover intention were discussed. Quantitative research has been applied by spreading questionnaires in Hong Kong hotels F&B departments and restaurants, chained restaurants and franchised restaurants. 84 questionnaires were received for further data analysis. The result showed that both commitments significantly affect turnover intention and have negative correlations, which means commitments can lower employees' chances of leaving their companies. Both commitments were the full mediators between transformational leadership and turnover intention. Transformational leadership have insignificant effects on turnover intention when the mediators presented in the model, it has a positive and direct effects to both commitments. A theoretical model with both



commitments as the mediators has been examined. This study provides insights to practitioners for human resource strategies.

## References

Chen, T. J., & Wu, C. M. (2017). Improving the turnover intention of tourist hotel employees: Transformational leadership, leader-member exchange, and psychological contract breach. *International Journal of Contemporary Hospitality Management*, 29(7), 1914-1936.

Hotel, Catering and Tourism Training Board – Vocational Training Council. (2015). *2015 Manpower Survey Report – Catering Industry*. Retrieved from: [http://www.vtc.edu.hk/uploads/files/HITDC/C-%20MPS%20Catering%202015%20\(Chinese%20version%20to%20web\)%20v2.pdf](http://www.vtc.edu.hk/uploads/files/HITDC/C-%20MPS%20Catering%202015%20(Chinese%20version%20to%20web)%20v2.pdf)

Tse, H. H. M., Huang, X., & Lam, W. (2013). Why does transformational leadership matter for employee turnover? A multi-foci social exchange perspective. *The Leadership Quarterly*, 24(5), 763-776.

Yousaf, A., Sanders, K., & Abbas, Q. (2015). Organizational/occupational commitment and organizational/occupational turnover intentions: a happy marriage?. *Personnel Review*, 44(4), 470-491.

# Customer co-creation value to hotel green practice

*Pui Sze Ceci Au & Chun Man Bruce Tsui*

## **Abstract**

An increasing trend of sustainable development induced a raising demand of green practice in the hotel industry. This paper adopted a quantitative approach to examine the relationship between hotel guests' perception and their view on co-creation value of green practice. By analyzing the attribute of conducting co-creation process in eco-friendly practice, there is positive attitude generated by hotel guest especially female and modern people with high spending power as a significant relationship appeared. Additionally, hotel brand recognition will be enhanced when conducting co-creation activities in green practice.

**Keywords:** Co-creation value, Green practice, Hotel

## **Introduction**

### ***Study Background***

Co-creation value is a new paradigm raised by numerous business literature which created a new service theory in 2000 (Gummesson et al., 2014). Traditionally, customers purchase goods and service in the hospitality and tourism industry. However, people nowadays tend to gain experiences and extra benefit during the hotel service process. Thus, hospitality firms are focusing on providing and creating experiences for offering product and services to maintain competitiveness in the market (Walls et al., 2011).

With the increasing trend of sustainable development in hospitality industry, there are a raising demand of green hotel in the past few years (Butler, 2008). Therefore, in order to address customer needs and want in green practice, the co-creation process in hospitality business sector is becoming customer oriented for generating co-create value with customers by interaction (Chathoth et al., 2013).

Regarding the development of co-creation and sustainable value, lots of hotel initiate co-creation value with eco-friendly actions for further improve service quality and recognition in the hospitality industry. Certainly, Hotel guest may generate a sustainable image through service however some of the guest is unsatisfied with those actions. Hence, a conflicting circumstance of different perception of eco-friendly actions is existed between hotel guests with different demographic characteristics.

### ***Problem statement***

Numerous studies have conceptually stated about the theory of co-creation and value of customer co-creation which enhance the customer loyalty and satisfaction by interaction (Payne, Storbacka & Frow, 2008; Prahalad & Ramaswamy, 2004; Lusch & Vargo, 2006; Grönroos, 2011). These studies indicated how the co-creation work on business development and the advantage while the co-creation process. In order to maintain customer engagement, co-creation is one of the elements for enhancing the customer experiences, in which concentrating the customer participation in this service sector.

Additionally, a great deal of studies described the green practice in hospitality industry (Chan, 2013; Kim, Lee & Fairhurst, 2017; Londoño & Hernandez-Maskivker, 2016). As the eco-friendly practices is growing in the accommodation business, the opportunity of using green practice is relatively high for increasing customer recognition and perception for hotel sustainability.

Most of the past research was mentioned single philosophy of co-creation value and green practice instead of a combination with two concepts. As such, research on the connection between green practice and co-creation process is still limited. This paper aimed to study hotel guests' perception on the green value generated by co-creating process and understand the efficiency on conducting co-creation for developing green hotels.

### ***Purpose and Objective***

The purpose of this paper is to investigate customers' perception on the co-creation value to hotel green practice. It focused on different segments of hotel guest perception on the view of co-creation activities in a hotel. As there are lots of green practice technique used for developing the message

of green, the study mainly addressed the relationship between hotel guests and co-creation activities, in which to review customer behaviors. Moreover, there are limited research conducted for the value of co-creation, this research can provide a good foundation structure for further studies. Below are the three objectives of the study,

1. To explore the major co-creation activities in green practice among hotel guests
2. To examine the attributes of conducting co-creation activities in green practices
3. To investigate the relationship between hotel guests and co-creation activities in green practices by the spending power and gender

## **Literature Review**

### ***The Importance of Green Practices***

Green practices are known as eco-friendly attitudes which is conducted for environment friendly management through green technique. The application of using green element in developing property can help for business sustainability including the process of design, construction and operation (Zhang et al., 2011). Green practice is a concept for promoting environment friendly messages through people, hotels are focusing on green management practice to reduce the negative environmental impact including the construction of environmentally friendly buildings, control of waste disposal and water usage (Mensah, 2006).

### ***Concept of co-creation***

The five forms of co-creation activities have been identified: feedback, co-production, firm-driven service innovation, customer-driven customization and co-creation (Oyner & Korelina, 2016). Co-creation is focusing on interaction between company and customer, it can influence the value creation from consumer as experience can be developed through the co-creation process (Prahalad & Ramaswamy, 2004). Moreover, Lusch and Vargo (2006) alleged that 'The customer is always a co-creator of value' as customer is the biggest concern in the co-creation process and a component for identifying the needs and wants. In order to create value from customers, interaction is one of the major components for engaging value in which co-creation can characterized as joint value

creation process (Grönroos, 2011).

In addition, customer involvement is one of the measurements in the co-creating process. Co-creation usually occurred at the highest level of customer involvement as there is total three level for measuring the process (Sarmah, Kamboj & Rahman, 2017). Normally, the customer who participant more can also defined as a co-producer which value and relationship can be built between customer and company.

### ***Trend of Green Hotel***

In order to increase the hotel competitive advantage, according to Lee et al. (2010) identified the customer perception on green hotel and concluded that developing a green image can contribute to more behavioral intentions for hotel registration.

The study of Jauhari and Manaktola (2007) indicated that there is a significant relationship between the consumer attitude and behaviour towards green practices. Also, the concept of ‘being green’ may affect the perception of customer when choosing a hotel as customer are willing to pay more (Jauhari & Manaktola, 2007). Moreover, from the study of Han et al., (2011) analyzed that increasing eco-friendly attitude can affect the customer behavior and intention to visit a green hotel. As the conscious of environmental protection is increasing among hotel guest, providing a higher opportunity to develop green hotel. Thus, the trend of green hotel is growing rapidly in the hotel industry.

### ***Hypotheses setting***

The framework for this study is to address the customer perception in co-creation activities by discussing on gender and customer spending power. Three hypotheses are set to test the relationship between variables.

$H_1$ : There is significant relationship between co-creation activities in green practices and customer perception by gender

$H_2$ : There is significant relationship between co-creation activities in green practices and customer perception by hotel guest’s spending power

*H<sub>3</sub>*: There is positive attributes of co-creation activities from hotel guest interaction

## **Methodology**

### ***Instrument***

Quantitative approach was adopted in the study, and online questionnaire was distributed to target market --- hotel guests. Quantitative research approach seeks for explanations which involves a numeric or statistical method for research design (Williams, 2007). There were 19 questions in total, in Likert scale, designed to answer the study objectives. Using survey relatively easy for implementation and analysis, as it is the primary data from target market. The questionnaire was consisting nominal, ordinal and scale type of questions for data measurement.

### ***Data-collection***

Primary data was collected from structured online questionnaire between April 1 to April 1. Questionnaires were distributed to 50 local or overseas hotel guests in Hong Kong, i.e., people who stayed overnight in hotels in the past were also considered as target market. The 50 questionnaires were equally distributed to 25 female and 25 males respectively as to classify the difference in the gender group. Secondary data was collected from numerous research studies that mentioned about the concept of green practice and the value generated from co-creation process.

### ***Data analysis method***

For objective 1 and 2, the results were measured by descriptive statistics and findings from secondary data. The descriptive statistics was adapted for data analysis of the co-creation activities in green practice from hotel guest perception. This method provides numerical outcome and ranking. The design of rating scales was used for measuring the level of acceptability of co-creation activities in green practice within respondents. The frequency statistics method was used to generate result with frequency number and percentage for showing the major acceptable co-creation activities in hotel.

For objective 3, the ANOVA Test was conducted for comparing the means differences of gender and personal income for analyzing the spending power on hotel guest perception. ANOVA Test

was used to measure on the difference between the means of one dependent variable and one independent variable within two group (Kerr, Hall & Kozub, 2002). In order to analyze the result from ANOVA approach, gender and monthly personal income were calculated as the independent factor and the four co-creation activities 'Reduce single-use consumables', 'Close all the electronic device when you leave the hotel room', 'Free request of the housekeeping service', 'Self-garbage classification in room' and 'Self-request for daily necessities' was known as the dependent variables for data measurement.

### ***Design of the Questionnaire***

Regarding to the questionnaire design, there are total 19 questions created for respondents. Eleven close-ended question and 9 Likert-scale questions will be designed for question setting. In the section of revealing customer perception on co-creation activities, the Likert scale questions in 'Strongly Disagree=1', 'Disagree=2', 'Neutral=3', 'Agree=4' and 'Strongly Agree=5'. In addition, Likert scale questions asked for the level of acceptability of co-creation activities by using "Strongly unacceptable=1", 'Unacceptable=2', 'Neutral=3', 'Acceptable=4' and 'Strongly acceptable=5' (Omar & Gómez, 2017).

### ***Data Sampling***

In the data sampling method, the stratified random sampling was adapted for analyzing the data in gender by taking equal sample sizes. Sample size of 25 females and 25 males was randomly selected as respondents. Stratified random sampling is a sampling method designed to provide accuracy assessment and this can help to control and guarantee the sample size in each category (Stehman, 1996).

## **Results**

### ***Demographic characteristics of respondents***

Table 4.1 presents the demographic characteristics of respondents. The questionnaire is equally distributed to female (n=25) and male (n=25) with 50% respectively. Most of the respondents are the age between 21 – 40 years old (n=42, 84%) and 10% respondents are 20 years old or below (n=5) and only 6% respondents are from 41 – 60 years old (n=3). Regarding to the monthly personal income, most of respondents are \$10000 or below (n=23, 46%), 24% of the income level

of respondents are \$20001 - \$30000 (n=12), 16% respondents are \$10001 - \$20000 (n=8) and few respondents at income level \$30001 or above (n=7, 14%).

*Table 4.1 Demographic characteristics of respondents*

Characteristics	Frequency	Percentage (%)
<b>Gender:</b>		
Female	25	50%
Male	25	50%
<b>Age Group:</b>		
20 or below	5	10%
21 - 40	42	84%
41 - 60	3	6%
<b>Monthly Personal Income:</b>		
10000 or below	23	46%
10001 - 20000	8	16%
20001 - 30000	12	24%
30001 or above	7	14%

### ***Descriptive Result of Objective 1***

In table 4.2, most of the respondents accept co-creation hotel activities in green practice. The most acceptable co-creation activity from hotel guest's perception is 'Close all the electronic device when you leave the hotel room' (n=24, 48%). The second acceptable co-creation activity is 'Self-



garbage classification in room' (n=22, 44%), third is 'Self-request for daily necessities' (n=21, 42%), followed by 'Reduce single-use consumables'(n=17, 34%). The least co-creation activity in green practice is 'Free request of the housekeeping service' (n=16, 32%).

*Table 4.2 The frequencies of co-creation activities attributes in green practice*

Major co-creation activities			Frequency	Percentage (%)
<b>Reduce single-use consumables</b>	Strongly unacceptable		1	2%
	Unacceptable		12	24%
	Neutral		14	28%
	Acceptable		17	34%
	Strongly Unacceptable		6	12%
<b>Close all the electronic device when you leave the hotel room</b>	Unacceptable		3	6%
	Neutral		13	26%
	Acceptable		24	48%
	Strongly Unacceptable		10	20%
<b>Free request of the housekeeping service</b>	Strongly unacceptable		1	2%
	Unacceptable		10	20%
	Neutral		15	30%
	Acceptable		16	32%

	Strongly Unacceptable	8	16%
<b>Self-garbage classification in room</b>	Strongly unacceptable	2	4%
	Unacceptable	8	16%
	Neutral	8	16%
	Acceptable	22	44%
	Strongly Unacceptable	10	20%
<b>Self-request for daily necessities</b>	Strongly unacceptable	1	2%
	Unacceptable	11	22%
	Neutral	8	16%
	Acceptable	21	42%
	Strongly Unacceptable	9	18%

Table 4.3 presents the co-creation activities in green practice that hotel guest had experienced when staying in hotel. There are 29.69% of respondents had tried ‘Close all the electronic device when you leave the hotel room’ (n=38). Second is ‘Free request of the housekeeping service’ (n=32, 25%), and 23.44% of respondents had tried ‘Reduce single-use consumables’ when staying in hotel (n=30). Moreover, 12,5% of respondents tried ‘Self-request for daily necessities’ (n=16), few respondents tried ‘Self-garbage classification in room’ during the stay (n=12, 9.38%).

Table 4.3 The co-creation activities that tried before when staying in hotel

Major co-creation activities	Frequency	Percentage (%)
<b>Reduce single-use consumables</b>	30	23.44%
<b>Close all the electronic device when you leave the hotel room</b>	38	29.69%
<b>Free request of the housekeeping service</b>	32	25%
<b>Self-garbage classification in room</b>	12	9.38%
<b>Self-request for daily necessities</b>	16	12.5%
<b>Total:</b>	128	

### ***Descriptive Result of Objective 2***

Regarding to table 4.4, most of the respondents agree the positive attributes of conducting co-creation hotel activities in green practice. There are 64% of respondents stated that will revisit the hotel when conducting co-creation activities (n=32), and 62%of respondents agree conducting co-creation activities can enhance hotel brand recognition (n=31). In addition, some of the respondents agree conducting co-creation activities can promote ‘green’ message in a hotel (n=29, 58%). And 56% of respondents agree co-creation activities can increase the perception of being green (n=28).

Table 4.4 The frequencies of positive attributes of conducting co-creation activities

The positive attributes		Frequency	Percentage (%)
<b>Promote ‘green’ message</b>	Disagree	1	2%
	Neutral	5	10%
	Agree	29	58%

	Strongly Agree	15	30%
<b>Enhance hotel brand recognition</b>	Disagree	2	4%
	Neutral	6	12%
	Agree	31	62%
	Strongly Agree	11	22%
<b>Increase the perception of being green</b>	Disagree	2	4%
	Neutral	8	16%
	Agree	28	56%
	Strongly Agree	12	24%
<b>Revisit the hotel</b>	Neutral	7	14%
	Agree	32	64%
	Strongly Agree	11	22%

Table 4.5 presents the negative attributes of conducting co-creation activities in a hotel. There is 44% of respondents agree conducting co-creation activities is a kind of tedious task (n=22) and 42% respondents agree it is inconvenient for staying in a hotel when co-creation activities required (n=21). However, there is 52% of respondents disagree conducting co-creation activities will decrease the hotel service quality (n=26).

*Table 4.5 The frequencies of negative attributes of conducting co-creation activities*

The negative attributes		Frequency	Percentage (%)
<b>Inconvenient</b>	Strongly Disagree	3	6%
	Disagree	11	22%
	Neutral	11	22%
	Agree	21	42%
	Strongly Agree	4	8%
<b>Tedious task</b>	Strongly Disagree	2	4%
	Disagree	10	20%
	Neutral	11	22%
	Agree	22	44%
	Strongly Agree	5	10%
<b>Hotel service quality decrement</b>	Strongly Disagree	3	6%
	Disagree	26	52%
	Neutral	10	20%
	Agree	10	20%
	Strongly Agree	1	2%

### ***ANOVA Test Result of Objective 3***

ANOVA Test is adopted for comparing the relationship between hotel guests and co-creation activities in green practices by the spending power and gender. Table 4.6 presents the mean differences of co-creation activities by the hotel guest gender. There are mean differences of hotel guest perception on ‘Close all the electronic device when you leave the hotel room’ by gender (F-value=22.27,  $p<0.01$ ). Female hotel guest (mean=4.28) perceive more positive on co-creation activities of closing all electronic device compared to male hotel guest (mean=3.36). In contrast, there is no mean differences of the other four co-creation activities by gender.

*Table 4.6 ANOVA Test on co-creation activities by gender*

Co-creation activities	Means by Gender		F-ration	ANOVA (sig. value)
	Female (1)	Male (2)		
<b>Reduce single-use consumables</b>	3.40	3.20	.46	.50
<b>Close all the electronic device when you leave the hotel room</b>	4.28	3.36	22.27	.00*
<b>Free request of the housekeeping service</b>	3.52	3.28	.65	.43
<b>Self-garbage classification in room</b>	3.76	3.44	1.05	.31
<b>Self-request for daily necessities</b>	3.72	3.32	1.70	.20

*\* $P<0.01$*

able 4.7 presents the mean difference on willingness of staying in a ‘green’ hotel by gender (F-value=12.62,  $p<0.01$ ). Females (mean=3.96) perceive more positive on willing to stay in a ‘green’ hotel than male (mean=3.08).

Table 4.7 ANOVA Test on willingness of staying in a 'green' hotel

	Means by Gender		F-ration	ANOVA (sig. value)
	Female (1)	Male (2)		
<b>Staying in a 'green' hotel</b>	3.96	3,08	12.626	.00*

\* $P < 0.01$

Table 4.8 presents the mean differences of co-creation activities by the monthly personal income of hotel guest. By analysis on ANOVA Test, there are mean differences of co-creation activities on 'Free request of the housekeeping service' by the spending power of hotel guest (F-value=3.33,  $p < 0.05$ ). Hotel guest with monthly income \$30001 or above (mean=4.14) perceive the highest positive on the co-creation activities of free request of the housekeeping service when comparing the other co-creation activities. The hotel guest with \$20001-\$30000 monthly income (mean=3.83) perceive more positive on 'free request of the housekeeping service' than hotel guest with \$10001-\$20000 monthly income (mean=3.13) and \$10000 or below (mean=3.04). In contrast, there is no mean differences of the other four co-creation activities by monthly personal income.

Table 4.8 ANOVA Test on co-creation activities by monthly personal income

Co-creation activities	Means by Monthly Personal Income				F-ration	ANOVA (sig. value)
	\$10000 or below	\$10001-\$20000	\$20001-\$30000	\$30001 or above		
<b>Reduce single-use consumables</b>	3.13	3.25	3.33	3.86	.89	.46

<b>Close all the electronic device when you leave the hotel room</b>	3.74	3.88	3.83	4.00	.19	.90
<b>Free request of the housekeeping service</b>	3.04	3.13	3.83	4.14	3.33	.03*
<b>Self-garbage classification in room</b>	3.48	3.00	4.00	4.00	.91	.16
<b>Self-request for daily necessities</b>	3.35	3.00	3.92	4.00	1.08	.15

\* $P < 0.05$

## Discussion & Conclusion

### *Acceptability of co-creation activities in green practice*

Regarding the findings of objective 1, most of the respondents made choice on ‘Acceptable’ and ‘Strongly Acceptable’ which agreeing the co-creation hotel activities in green practice. The result can be concluded as a high level of acceptability among hotel guests. Respondents were willing to attempt co-creation action as to promote green practice. Under the findings from questionnaire, hotel guest perceived the highest percentage on the action of ‘Close all the electronic device when you leave the hotel room’ which means respondents accept the action of reducing energy consumption. As this action is the most simple and common action in the concept of ‘being green’, controlling electricity use is an important factor to achieve global reduction in energy consumption (Rai & Henry, 2016).



Beside the other four co-creation activities, most of the respondents mentioned that had tried the action of ‘Close all the electronic device when you leave the hotel room’. This show a high percentage of support in the action of reducing electricity consumption. Therefore, under the result received from the questionnaire, the findings demonstrated that the major acceptable co-creation activities in green practice among hotel guests is the action related to energy reduction.

### ***Positive attribute***

Under the findings of objective 2, the highest frequently action stated that hotel guest will revisit the hotel with co-creation activities. Respondents involved in the co-creation action and believed that the hotel brand recognition can be enhanced due to the eco-friendly image. Some of the hotel guest agreed the mentioned co-creation activities in green practice can promote ‘green’ message among hospitality industry and increase the customer perception of being green. Han and Chan (2013) indicated that hotel in green practice is contribution to environment and lead to a better hotel image among hotel guests. Therefore, conducting co-creation activities in green practice can perceive positive ‘green’ image and enhance customer recognition on hotel brand.

Moreover, some of the respondents disagreed the co-creation activities lead to service quality decrement. Respondents believed that there is no direct relationship between co-creation value and service quality decrement. As some findings stated that the value of co-creation can lead to a positive customer engagement (Oyner & Korelina, 2016). and the standard of living environment can be improved with higher quality experience (Han & Chan, 2013). Therefore, the hotel service quality would not be affected.

### ***Negative attribute***

Apart from the positive attribute, some negative attribute emerged when conducting co-creation hotel activities in green practice. Most of the respondents agreed that conducting co-creation activities in a hotel is inconvenient and a kind of tedious task. With the support from literature hotel guest felt inconvenient when the hotel reduces the supply of single-use consumables such as shampoo and toothbrushes (Han & Chan, 2013). Therefore, the findings can be concluded that negative attribute were still exist in the co-creation value in green practice. As such, this may lead

to restriction on developing co-creation action in green hotel.

### ***Co- creation activities relationship by gender***

From the above findings, there is a significant relationship between gender and co-creation value in green practice. Females perceived a higher mean score of co-creation than males. As there is a mean gender difference on the action of ‘Close all the electronic device when you leave the hotel room’, females are more acceptable on the co-creation activities and aware of customer involvement. Moreover, females are more willing to stay in a ‘green’ hotel than males. Therefore, females accept more co-creation value in green practice and stay in hotels with eco-friendly practice.

### ***Co- creation activities relationship by monthly personal income***

In achieving the hypothesis two, there is significant relationship between hotel guests and co-creation activities in green practices by the spending power. A mean difference occurred in the co-creation activities of ‘Free request of the housekeeping service’ between different monthly personal income among respondents. Hotel guest with a higher spending power perceived positive attitude on the co-creation action. As the customer attitude may highly affect the behavior in green practice (Jauhari & Manaktola, 2007), hotel guest with higher positive attitude may accept more a hotel with co-creation value. Thus, people with higher spending maintain a positive view on co-creation green action.

### ***Recommendation***

The study shows a positive attitude on the co-creation value and green practice among hotel guests. As high customer involvement will be created when conducting co-creation activities in green practice, it enhances the hotel brand recognition and image. The increasing awareness of co-creation value in green practice may rise the interest of being ‘green’ among hospitality industry and motivate hotel to conduct the green action of co-creation.

Hotel operators and developers can consider adding more co-creation value with green practice in order to maintain sustainability and branding enhancement. Hotel guests with higher spending power have more awareness of co-creation and eco-friendly value. Thus, economy and up-scale

hotel can consider developing co-creation value among the industry. Co-creation actions such as ‘Reducing single-use consumables’ and ‘Providing free request of the housekeeping service’ may be applied in the hospitality industry. Thus, hotel operators should implement simple and friendly co-creation activities to prevent negative attribute generated during the co-creation process.

### ***Conclusion***

This research aims to investigate the relationship between hotel guest’s perception and co-creation value in eco-friendly practice. Scholars had investigated important factors and reasons on conducting co-creation value, and benefits on applying green practice in hotel. Regarding the findings, a positive attitude toward the co-creation value may develop among hotel guests, especially females and guests who have higher spending power. Hotels conducting co-creation process with green value can enhance the branding image and act as a method to rise customer recognition on a hotel. However, some negative attributes perceived from co-creation process, such as inconvenience could be avoided during co-creation activities in green practice.

For the industry contribution, this study raised the awareness of co-creation value and green attributes among the hospitality industry. To enhance the opportunity for hotel to develop co-creation activities toward green practice such as limited daily necessities, it can influence the hotel industry perception on creating co-creation value, motivate the hotel to conduct the green action of co-creation. Apart from that, theoretically, people can gain the knowledge of co-creation and guest perception on co-creation to green practice, an important practice of co-creation concept in hotels. This concept of co-creation value and green practice can enhance the theory recognition for further study development.

### ***Limitation***

The limitation of this research is the restriction on sample size of respondents, the findings generated from questionnaire may not fully represent to the general population. As a wide range of sample size may influence the result, the larger the sample size can obtain a higher level of precision (Israel, 1992). Therefore, the findings may still consist of uncertainty for the hotel market. Potential bias of the respondents may occur as respondents have different perception on the co-creation value and results could be affected when consist of peer pressure when conducting

questionnaire.

### ***Suggestion for Future Research***

It is suggested that this research can be more comprehensive by exploring larger sample size and employing mix method approach with combining both quantitative and qualitative questions. Applying the mix method can investigate a more in-depth analysis on the respondent's perception and advanced quality control of the study (Creswell, 1999; Terrell, 2012). This can help find out the reasons and factors on accepting co-creation process and the result can be more precise. Additionally, it is suggested to further research on the negative attribute generated by co-creation actions as to understand the reason and investigate solution methods for hotel service improvement.

### **References**

- Butler, J. (2008). The compelling "hard case" for "green" hotel development. *Cornell hospitality quarterly*, 49(3), 234-244.
- Chan, E. S. (2013). Gap analysis of green hotel marketing. *International Journal of Contemporary Hospitality Management*.
- Chathoth, P., Altinay, L., Harrington, R. J., Okumus, F., & Chan, E. S. (2013). Co-production versus co-creation: A process based continuum in the hotel service context. *International Journal of Hospitality Management*, 32, 11-20.
- Creswell, J. W. (1999). Mixed-method research: Introduction and application. In *Handbook of educational policy* (pp. 455-472). Academic Press.
- Grönroos, C. (2011). Value co-creation in service logic: A critical analysis. *Marketing theory*, 11(3), 279-301.
- Gummesson, E., Mele, C., Polese, F., Galvagno, M., & Dalli, D. (2014). Theory of value co-creation: a systematic literature review. *Managing service quality*.
- Han, H., Hsu, L. T. J., Lee, J. S., & Sheu, C. (2011). Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions. *International Journal of Hospitality Management*, 30(2), 345-355.
- Han, X., & Chan, K. (2013). Perception of green hotels among tourists in Hong Kong: An exploratory study. *Services Marketing Quarterly*, 34(4), 339-352.
- Israel, G. D. (1992). Determining sample size. *University of Florida*, 1-2

- Jauhari, V., & Manaktola, K. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International journal of contemporary hospitality management*.
- Kerr, A. W., Hall, H. K., & Kozub, S. A. (2002). *Doing statistics with SPSS*. Sage.
- Kim, S. H., Lee, K., & Fairhurst, A. (2017). The review of “green” research in hospitality, 2000-2014. *International Journal of Contemporary Hospitality Management*.
- Lee, J. S., Hsu, L. T., Han, H., & Kim, Y. (2010). Understanding how consumers view green hotels: how a hotel's green image can influence behavioural intentions. *Journal of sustainable tourism*, 18(7), 901-914.
- Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology*.
- Londoño, M. L., & Hernandez-Maskivker, G. (2016). Green practices in hotels: the case of the GreenLeaders Program from TripAdvisor. *Sustainable Tourism VII*, 1, 1-13.
- Lusch, R. F., & Vargo, S. L. (2006). Service-dominant logic: reactions, reflections and refinements. *Marketing theory*, 6(3), 281-288.
- Mensah, I. (2006). Environmental management practices among hotels in the greater Accra region. *International Journal of Hospitality Management*, 25(3), 414-431.
- Omar, K., & Gómez, J. M. (2017). An investigation of the proliferation of mobile ERP apps and their usability. In 2017 8th International Conference on Information and Communication Systems (ICICS) (pp. 352-357).
- Oyner, O., & Korelina, A. (2016). The influence of customer engagement in value co-creation on customer satisfaction. *Worldwide Hospitality and Tourism Themes*.
- Payne, A. F., Storbacka, K., & Frow, P. (2008). Managing the co-creation of value. *Journal of the academy of marketing science*, 36(1), 83-96.
- Prahalad, C. K., & Ramaswamy, V. (2004). Co-creation experiences: The next practice in value creation. *Journal of interactive marketing*, 18(3), 5-14.
- Prahalad, C. K. & Ramaswamy, V. (2004). Co-creating unique value with customers. *Strategy & leadership*, 32 (3), 4-9.
- Rai, V., & Henry, A. D. (2016). Agent-based modelling of consumer energy choices. *Nature Climate Change*, 6(6), 556-562.
- Sarmah, B., Kamboj, S., & Rahman, Z. (2017). Co-creation in hotel service innovation using smart phone apps: an empirical study. *International Journal of Contemporary*

*Hospitality Management.*

- Stehman, S. (1996). Estimating the kappa coefficient and its variance under stratified random sampling. *Photogrammetric Engineering and Remote Sensing*, 62(4), 401-407.
- Terrell, S. R. (2012). Mixed-methods research methodologies. *Qualitative report*, 17(1), 254-280.
- Walls, A. R., Okumus, F., Wang, Y. R., & Kwun, D. J. W. (2011). An epistemological view of consumer experiences. *International Journal of Hospitality Management*, 30(1), 10-21.
- Williams, C. (2007). Research methods. *Journal of Business & Economics Research (JBER)*, 5(3).
- Zhang, X., Platten, A., & Shen, L. (2011). Green property development practice in China: Costs and barriers. *Building and environment*, 46(11), 2153-2160.

# **The adoption of green initiatives in Singapore hotel sector: investigation on green initiatives, barriers and re-motivators**

*Ying Ting Kua, Li Ning Oh, Lok Bin Ong,*

*Pei En Wong, Kah Yun Yip & Bona Kim*

## **Abstract**

Increasing concerns over environmental sustainability has been observed and the hotel sector is not exceptional, which ought to start implementing various green initiatives in its operation. This study aims to explore how hotel managers and hotel users perceive current green initiative actions and identify existing green initiatives implemented in hotels, barriers affecting participation and re-motivation factors through exploratory research by adopting semi-structured interviews. Three strategies of re-motivation are identified to improve participation rate, efficiency, and drive adoption of green initiatives.

**Keywords:** Green Initiatives, Barriers, Re-Motivators, Driving Adoption, Singapore Hotel Industry

## **Introduction**

The hotel industry consumes substantial amounts of fuel, energy, water and nonrenewable resources due to its distinctive characteristics of operation and management in providing services (Robinot & Giannelloni, 2010). Consequently, the public's concerns over environmental sustainability have been increasing over the years (Ouyang, Wei, & Chi, 2019) and hotels have started to participate in this growing trend (Verma & Chandra, 2016). Likewise, many hotels in Singapore have joined the green bandwagon (Vasko, 2017). It is evident that more local hotels are becoming environmentally conscious with more than a quarter of local hotels being Green Mark certified out of a total of 410 hotels in 2018 (Singapore Tourism Board, 2019). However, as hotels are constantly implementing new initiatives due to the trend of sustainability, there is no study on a comprehensive overview of the current green initiatives that are being implemented in Singapore's hotel industry.

Some hotels are facing the dilemma of going green as it impacts guest expectations of staying in a hotel. Guests may be reluctant to participate in hotels' green programs as they would expect to enjoy the full benefits and services as paying customers (Co, 2019). This is supported by the attribution theory (Kang, Stein, Heo, & Lee, 2012), which found out that when guests evaluate a company's green initiatives, they may elaborate on the message to seek embedded motivation within the initiatives. This is also further supported by Baker, Davis, and Weaver (2014) which mentioned that one of the main barriers to participation is when guests view green practices as a way for hotels to cut costs. The study also found two other main barriers to participation, namely

the unwillingness to put up with discomfort and perception of decreased luxury. Due to the existence of these barriers, the participation of green initiatives in hotels remains stagnant.

Although a few studies have examined travelers' perceived barriers to participation in green initiatives, research on these barriers are still limited (Chan, 2009). A study by Baker et al. (2014) identified existing barriers to participation in green initiatives in hotels, while others only examined barriers that might affect the participation rate in other contexts (Fairweather, Maslin, & Simmons, 2005). Therefore, more investigation needs to identify the diverse types of existing barriers to green initiatives in the hotel industry. In addition, past studies have targeted heterogeneous samples from the USA (Kang, et al., 2012), India (Manaktola & Jauhari, 2007) and New Zealand (Fairweather et al., 2005). Kang et al. (2012) argued that the dissimilar national cultures due to the heterogeneity of samples in each study may lead to different implications in findings. Therefore, this study focuses on Singapore context to identify barriers to participation in green initiatives in local hotels.

To drive green initiative adoption, hotels have attempted to motivate guests with extrinsic motivations such as incentives (Goldstein, Cialdini, & Griskevicius, 2008). However, numerous studies have shown that the adoption of green initiatives among guests has been stagnant despite hotels providing monetary discounts to encourage participation in green initiatives (Huang, Lin, Lai, & Lina, 2014). As these extrinsic motivations do not increase the adoption rate of green initiatives, it is suggested that a gap exists between the extrinsic motivations that hotels currently offer and the types of motivation that travelers' need. Van Der Linden (2015) discovered the limitations of over-reliance on extrinsic incentives and intrinsic motivations are under-leveraged as intrinsic motivations would allow positive environmental behaviors to sustain over time. However, intrinsic motivation factors that would increase travelers' participation in green initiatives have been under researched (Goldstein et al., 2008). In addition, there are limited studies on how hotels can improve the current situation with the use of intrinsic motivation strategies. Therefore, this study aims to explore what can re-motivate guests to participate in green initiatives in hotels. To illustrate how hotels can re-motivate guests to participate, a logic pathway is designed as shown in Figure 1. Based on the research gaps, the following research questions are identified for qualitative research.

1. What are the existing green initiatives available?
2. What are the barriers affecting travelers' participation in green initiative actions?
3. How can travelers be re-motivated to participate in green initiative actions?

**Figure 1.** Logic Pathway of Guest Participation in Green Initiatives in a Hotel

\* Note: created and adopted by researchers

## **Literature Review**

### **Green Initiatives in Singapore Hotel Industry**

In recent years, Singapore hotels have actively increased their effort towards environmental impact (Beasley, 2018). Some examples of existing sustainable hotel operations implemented include food waste recycling, usage of alternative water sources, engagement on the 3Rs (Reduce, Reuse and Recycle) and annual audit (National Environment Agency, 2019). In addition, hotels have



attempted to encourage guests' participation that affects the overall guest satisfaction (Berezan, Millar, & Raab, 2014). For instance, the most widely adopted initiatives are linen and towel reuse programs and placement of recycling bins in guest rooms (Ministry of Environment & Water Resource, 2017). However, results are insignificant in practice despite the years of effort in implementing and promotion of green initiatives (Tan, 2018). To improve the success rate, it is important for hotels to take into account guest's preferences on green initiatives so as to retain guests and promote participation (Tan, 2020).

### **Barriers to Participation in Green Initiatives**

It is vital to gain a better understanding of constraints of travelers in the participation of green initiatives to allow hotels to design green programs that are more effective and efficient (Baker et al., 2014). Manaktola and Jauhari (2007) argued that although consumers may be willing to participate in environmentally friendly initiatives, constraints created barriers which caused resistance to participate. Baker et al. (2014) identified three main barriers to participation in green initiatives in hotels which are discomfort, decrease in luxury and perceived cost-saving for hotels. Fairweather et al. (2005) emphasized that guests would not participate in green initiatives if it affects their level of enjoyment. Manaktola and Jauhari (2007) supported this barrier through their findings that guests are unwilling to accept a decrease in luxury or amenities even for the purpose of environmental sustainability. Discomfort refers to not only the physical but also psychological experience during the guest's stay at a hotel and Participation is perceived as a cost savings means for hotels. Although some green initiatives would require hotels to fork out additional expenses, guests might still view them as a cost-cutting measure for hotels (Baker et al., 2014).

### **Motivation**

There are two basic distinctions of motivation which are intrinsic and extrinsic to encourage travelers to participate in green initiative actions (Deci & Ryan, 1985). An example of intrinsic motivation is when one participates in green practices because they are environmentally conscious and have a sense of obligation to preserve Earth's resources (Line, Hanks, & Miao, 2018). While extrinsic motivation is when one is only motivated to participate in green practices because there are external rewards given such as discounts. (Line et al., 2018). In addition, Van Der Linden (2015) suggested that there are limitations of extrinsic incentives and that intrinsic motivations are under-leveraged as intrinsic motivations would allow positive environmental behaviors to sustain over time (Van Der Linden, 2015).

Hotels have been using extrinsic motivations such as rewards and discounts to motivate guests to participate. (Webb, Soutar, Mazzarol, & Saldaris, 2013). However, participation rate in the green initiatives still remains stagnant, implying that the existing extrinsic motivations are ineffective and should be improved. To gather more support from guests in hotel's green initiatives, studies on using intrinsic motivation to persuade guests to participate in green initiatives have been done. Both intrinsic and extrinsic motivations are associated with pro-environmental behaviors (Cheng, Chiang, Yuan, & Huang, 2018). However, according to the motivation crowding theory, large amounts of extrinsic motivations might crowd out the intrinsic motivations of consumers and decrease pro-environmental behavior when extrinsic rewards are not given (Line et al., 2017).

Thus, this study focuses on balancing both types of motivations in order for both intrinsic and extrinsic motivations to work hand in hand to re-motivate travelers to participate in green initiatives.

## **Methodology**

An inductive-qualitative approach was adopted. The sampling frame consisted of Singaporeans and Singapore Permanent Residents, who have stayed in local or overseas hotels. First, expert sampling was used to select hotel managers suitable for an interview based on the hotel categories; Economy, Mid-priced, and Luxury. For hotel users, homogenous sampling was used to select participants who have stayed at in the previous 24 months. The interviews with hotel managers and hotel users were conducted in May 2020 according to two phases with predetermined questions. Interview questions were designed based on the logic pathway in Figure 1.

Prior to the first phase of interviews with hotel managers, an email with the interview guide was sent to a list of 62 hotels in Singapore requesting them to participate in the semi-structured interviews. Two of the eight respondents indicated a willingness to participate in interviews online and other respondents provided their detailed responses via email by filling out open-ended questions. In addition, 30 structured interviews were conducted with Singapore residents who stayed in a hotel within the past two years. The interview guide was sent out to hotel users via email, upon agreement to participate in the interview. Each hotel user was given a week to provide their responses based on the open-ended questions. Qualitative data was analyzed through qualitative content analysis. The process of conducting content analysis uses deductive category approach by identifying and creating a set of criteria based on preconceived categories from the literature review and labelling segments of texts with codes from the list of identified criteria (Mayring, 2000).

## **Results**

### **Existing Green Initiatives**

A total of 19 green initiatives are identified and the most mentioned initiatives are ‘towel reuse program’ and ‘linen reuse program’ (see Table 1). Majority of the green initiatives have been implemented since the opening of their properties, but hotels only started focusing more on the green initiatives in recent years. Most hotel managers were aware of the increasing negative environmental impact from the industry. Hence they hope that by implementing the green initiatives it will help to reduce the negative impacts on the environment. In addition, most hotel managers responded that the green initiatives are effective in achieving its goal and they have future plans to implement more green initiatives such as organizing more green events and campaigns by partnering with non-profit organizations. From the hotel users’ perspective, the majority were aware of the green initiatives mentioned by the hotel managers except for the organizing sustainability-themed events which were not mentioned by any of the hotel users. However, based on the hotel users’ responses, it can be seen that many of them do not notice or are not aware of the green initiatives implemented in the hotel during their stay as seen below:

**Table 1.** Results of Green Initiatives

Theme	Categories	Results	Frequency
Green initiatives that require guest's participation	Linen & Towel Reuse Program	Towel Reuse Program	25
		Linen Reuse Program	24
	Removal of Plastics	Biodegradable Amenities	12
		Replacement plastic bottled water with alternative water sources	12
		Green Building	11
	Placement of Recycling Bin in Guest room	Recycling Bin in Guest Room	11
	Green Building	Occupancy Sensor	9
	Removal of Plastics	Soap Dispenser	6
		Replacement plastic bottled water with alternative packaging	5
		Replacement of plastic straws with alternative material	5
		Removal of plastic straws	4
		Replacement of plastic bags with paper bags	3
	Technology	Provision of digital menu instead of paper menu	2
	Green Building	Water Recycling System	2
		Sustainable Farming	2
	Staff & Guest Engagement Program	Educational Posters for Green Initiatives	2

	Green Building	Custom Water Filters to Optimize Water Flow and Pressure	2
	Staff & Guest Engagement Program	Organizing Sustainability-themed Events	1
	Removal of Plastics	Single-use Amenities Provided Upon Request Only	1
Green initiatives that do not require guest's participation	Backend Recycling	Backend Recycling	5
	Green Building	Energy Efficient Building	5
	Reduction in size and Recycling of soap	Recycling of Soap	4
	External Partnership	External Partnership	5
	Food-waste Recycling	Food Recycling	2

### Barriers to Participation

Shown in Table 2, a total of 10 barriers are identified which discourage participation in green initiative action. Hotel managers indicated that the participation rate is not low but could still be improved. ‘Hygiene and cleanliness concerns’ is the only barrier mentioned by both hotel managers and hotel users. The Hotel users who did not participate in green initiatives felt that some initiatives such as towel and linen reuse and reusable bottles are unhygienic and therefore unacceptable as it causes discomfort. Next is personal habits as they would prefer to change their towels daily, just like they do at home. Followed by inconvenience as they also added that certain green initiatives such as recycling bins require too much effort. Last is the decrease in their luxury experience and discomfort as some felt that they are entitled to amenities like daily towel change in hotels as they paid for their stay.

**Table 2.** Results of Barriers to Participation

Results
Hygiene and Cleanliness Concerns
Decrease Comfort
Not Value for Money

Inconvenience

Decrease Luxury Experience

Lack of Awareness

Personal Habits

Cost-saving Means for Hotel

Length of Stay

Purpose of Travel

---

### Re-motivators

Displayed in Table 3, seven intrinsic and six extrinsic re-motivators are identified. The majority of the hotel users mentioned that ‘increasing the awareness of green initiatives’ and ‘educating guests on the importance of the green action’ will re-motivate guests to participate. They suggested that information on green initiatives can be distributed and promoted through pamphlets, posters, advertisements on hotel websites and hotel premises. Another frequently mentioned re-motivator is ‘incentives’. Besides brand rewards points and restaurant discounts, hotel users highlighted incentives such as chocolate platter and discount voucher for paid hotel facilities.

**Table 3.** Results of Extrinsic and Intrinsic Re-motivators

Themes	Code
Extrinsic Re-motivators	Incentives
	Implementing more Green Initiatives
	Incorporating Technology into the Green Initiatives
	Providing alternative sustainable packaging options
	Green Gamification
	Compulsory Participation

Intrinsic Re-motivators	Increasing Awareness on Green Initiatives
	Educating Guest on Importance of Green Initiatives
	Minimizing Inconvenience
	Increasing Visibility of Green Initiatives
	Minimizing Impact on Guest Experience
	Assuring Safety and Quality of Green Initiatives
	Providing Housekeeping Services Upon Request
Others	Others

---

## Discussion and Conclusion

This study attempts to find out the existing green initiatives available in hotels. The results are similar to what is found in the literature review on Singapore hospitality industry. However, there are two unique green initiatives that have not been identified in the literature review, namely ‘sustainable farming’ and ‘replacing paper menus with digital menus’. In the Singapore context, ‘hygiene and cleanliness concerns’ is the only barrier mentioned by both hotel managers and hotel users. However, out of the four main barriers rated by Singapore residents as the most significant in the quantitative research, hotel managers only identified one barrier, ‘hygiene and cleanliness concerns’. This implies that hotel managers might not be aware that the other three barriers - ‘discomfort’, ‘inconvenience’ and ‘personal habits’ are significant for Singapore residents.

Despite the increase in participation, the awareness level of green initiatives implemented in hotels could still be improved. Most hotels recognize that by increasing the awareness of the green initiatives implemented through visual display or verbal communication with staff will help to re-motivate guests to participate. Additionally, providing incentives and allowing guests the option to participate are other re-motivations mentioned to further increase participation. From the interviews, hotel users can be re-motivated through green gamification, the creation of interesting and interactive content to engage them to participate. Some hotel users also mentioned that hotels can re-motivate them through incorporating technology into green initiatives such as replacing paper menus with digital menus. Others felt that the visibility of green initiatives can be improved by placing green initiatives at more prominent locations. Among the list of identified re-motivators, providing incentives and increasing the awareness of the green initiatives are the only two motivators most commonly mentioned by both hotel managers and users. The similar re-motivators identified from the literature review and the qualitative research have helped to finalise a list of 13 re-motivators.

## Limitation and Future Research

Several limitations of this present study are also revealed. One of the main limitations is the number of sample size for the interviews with hotel managers across the different hotel categories. Due to the COVID-19 pandemic and 2-months lockdown period in Singapore, the response rate was relatively low however 30 additional structured interviews with Singapore residents were conducted to precisely generate the meaningful findings for this study. Future studies can expand on the managerial aspects about green initiatives at different positions and in various contexts such as European context to conduct a cross-cultural study.

## References

- Baker, M. A., Davis, E. A., & Weaver, P. A. (2014). Eco-friendly Attitudes, Barriers to Participation, and Differences in Behavior at Green Hotels. *Cornell Hospitality Quarterly*, 55(1), 89–99.
- Beasley, C. (2018, April 21). *How Singapore hotels benefit from going green, as well as helping the planet*. Post Magazine. <https://www.scmp.com/magazines/post-magazine/long-reads/article/2142574/how-singapore-hotels-benefit-going-green-well>
- Chan, W. W. (2009). Environmental measures for hotels' environmental management systems: ISO 14001. *International Journal of Contemporary Hospitality Management*, 21(5), 542-560.
- Cheng, J. C.-H., Chiang, A.-H., Yuan, Y., & Huang, M.-Y. (2018). Exploring Antecedents of Green Tourism Behaviors. *Sustainability*, 10(6).
- Co, C. (2019, October 4). *Hotel waste: The huge switch to becoming a more sustainable business*. Channel News Asia. <https://www.channelnewsasia.com/news/singapore/plastic-environment-sustainable-business-hotel-hospitality-11885648>
- Deci, E. L., & Ryan, R. M. (1985). Intrinsic Motivation and Self-Determination in Human Behavior. In *Intrinsic Motivation and Self-Determination in Human Behavior*.

- Fairweather, J. R., Maslin, C., & Simmons, D. G. (2005). Environmental values and response to eco labels among. *Journal of Sustainable*, 13(1), 82-98.
- Goldstein, N. J., Cialdini, R. B., & Griskevicius, V. (2008). A Room With a Viewpoint: Using Social Norms to Motivate Environmental Conservation in Hotels. *Journal of Consumer Research*, 35(3), 472-482.
- Huang, H.-C., Lin, T.-H., Lai, M.-C., & Lina, T.-L. (2014). Environmental consciousness and green customer behavior: An examination of motivation crowding effect. *International Journal of Hospitality Management*, 40, 139-149.
- Kang, K. H., Stein, L., Heo, C. Y., & Lee, S. (2012). Consumers' willingness to pay for green initiatives of the hotel industry. *International Journal of Hospitality Management*, 31(2), 564-572.
- Line, N. D., Hanks, L., & Miao, L. (2018). Image Matters: Incentivizing Green Tourism Behavior. *Journal of Travel Research*, 57(3), 296-309.
- Manaktola, K., & Jauhari, V. (2007). Exploring consumer attitude and behaviour towards green practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.
- Mayring, P. (2000). Qualitative content analysis forum qualitative sozialforschung. *Forum: qualitative social research*, 1(20), 2-00.
- Ministry of Environment & Water Resource. (2017, August 25). *News*. Ministry of Environment & Water Resource. <https://www.mewr.gov.sg/news/opening-address-by-dr-amy-khor--senior-minister-of-state--ministry-of-the-environment-and-water-resources-and-ministry-of-health-at-the-singapore-green-hotel-award-presentation-ceremony-2017-on-25-august-2017--235pm-at-ramada->
- National Environment Agency. (2019). *NEA 3R Guidebook for hotels*. National Environment Agency. <https://www.nea.gov.sg/docs/default-source/resource/3r-guidebook-for-hotels.pdf>



- Ouyang, Z., Wei, W., & Chi, C. G. (2019). Environment management in the hotel industry: does institutional environment matter? *International Journal of Hospitality Management*, 77, 353–364. <https://doi.org/10.1016/j.ijhm.2018.07.015>.
- Robinot, E., & Giannelloni, J. L. (2010). Do hotels' "green" attributes contribute to customer satisfaction? *Journal of Services Marketing*, 24(2), 157-169.
- Singapore Tourism Board. (2019). *Hotels*. Singapore Tourism Board. <https://www.stb.gov.sg/content/stb/en/industries/hotels.html>.
- Tan, E. (2018, June 5). *Green practices gaining ground with companies in Singapore*. Business Times. <https://www.businesstimes.com.sg/government-economy/green-practices-gaining-ground-with-companies-in-singapore>.
- Tan, S.-A. (2020, January 10). *Hotels must go green so guests won't see red: Boss*. The Straits Times. <https://www.sgsme.sg/news/hotels-must-go-green-so-guests-wont-see-red-boss>.
- Van Der Linden, S. (2015). Intrinsic motivation and pro-environmental behaviour. *Nature Climate Change*, 5(7), 612-613.
- Vasko, L. (2017, March 17). *Hotels join the green bandwagon*. The Straits Times. <https://www.straitstimes.com/lifestyle/travel/hotels-join-the-green-bandwagon>.
- Verma, V. K., & Chandra, B. (2016). Sustainability and customers' hotel choice behaviour: a choice-based conjoint analysis approach. *Environment, Development and Sustainability*, 1347-1363.
- Webb, D., Soutar, G. N., Mazzarol, T., & Saldaris, P. (2013, September). Self-determination theory and consumer behavioural change: Evidence from a household energy-saving behaviour study. *Journal of Environmental Psychology*, 35, 59-66.

# **Investigating the service quality between themed hotel and non-themed hotel in tourism industry: evidence in Macau**

*Ng Nok Huen Nicole, Yui-yip Lau & Chammy Y.L. Lau*

**Keywords:** Macau, Themed hotel, Non-themed hotel, SERVQUAL, RATER, Diversification

Tourism is a fast-growing industry in the 21<sup>st</sup> century. Since many Hong Kong people tend to take short holidays rather than long-staying, Macau owns a geographical advantage to become a popular destination nowadays. Although Macau has established various themed and non-themed hotel in the last decades, the comparison of the tourists' experiences in living themed and non-themed hotel in Macau is overlooked. The purpose of the research is to investigate the service quality by comparing the themed and non-themed hotel in Macau. As such, we apply SERVQUAL and RATER frameworks to evaluate the service quality of the investigated hotels. The tourists whose stayed at themed and non-themed hotel in Macau will be the target participants. Each hotel will have 75 participants who supposed have already lived in the hotel before to respond to the questionnaire aims to share their opinion so that 150 surveys will be collected to have a further comprehensive analysis. This study addressed the service and the facilities between the themed hotel and non-themed hotel are insignificant. Implications of study findings indicate that the reality, the service, quality and the facilities are the most common consideration of the non-themed hotel. Also, the selling point of the themed hotel by providing more related activities and shops in the hotel but not only the famous brand in the world. The diversification of hotel industry in Macau would be enhanced.

## **References**

- Ramsaran, R. R. (2007). Developing a service quality questionnaire for the hotel industry in Mauritius. *Journal of Vacation Marketing*, 13(1), 19-27.
- Najafi, S., Saati, S. & Bighami, M. K. (2013). How do customers evaluate hotel service quality? An empirical study in Tehran hotels. *Management Science Letters*, 3(12), 3019-3030.
- Xiao, Q., Zhang, H. Q. & Huang, H. (2013). The effects of hotel theme strategy: An examination on the perceptions of hotel guests on theme elements. *Journal of China Tourism Research*, 9(1), 133-150.

# **The impact of food culture and market trend on the development of themed restaurants in Hong Kong from customer perspective**

*Yuen Wing Lee & Kang Lin Peng*

## **Abstract**

With the rapid growth of theme dining industry in recent years, this study aims to examine how food culture and market trend affect the development of themed restaurant in Hong Kong from the customer perspective. An online survey was conducted to do the investigation. The results indicate that customers follow some attributes of food culture and market trends, such as themed concept, virtual reality, chatbox and belief as the main factors to choose themed restaurants that affect the development of the restaurant industry.

**Keywords:** Food Culture, Market Trend, Themed Restaurants, Hong Kong, Customer Perspective

## **Introduction**

Being an international city, Hong Kong has no exception of being affected by the themed restaurant trend. Numerous of conceptual restaurants have popped out, such as 747 Galley by Cafe Proud Wings in Tai Kok Tsui, Crazy Car Cafe in Cheung Sha Wan, Hello Kitty Secret Garden in Tai Hang, innovative Chinese restaurants like Dim Sum Icon in Tsim Sha Tsui and Hello Kitty Chinese Cuisine in Jordan (Lai, 2019; Gunawan, 2019). The countless examples witness the popular theme dining experience and the overall growth in Hong Kong.

To study how food culture and market trend affect the development of themed restaurants in Hong Kong from the customer perspective, this study goes with two research objectives - to analyze the influence of food culture attributes and market trend towards the visit intention and the development of themed restaurants in Hong Kong.

The previous research on this research topic is usually from the company perspective, this study complements from the customer's perspective by discovering what is their criteria and perception when choosing a themed restaurant. It helps not only digging out more attributes of restaurant management but also the owner and marketing team of the existing themed restaurants to think from the customers' perspective for better decision making on the development strategies.

## **Literature Review**

### ***Themed Restaurant***

Cameron (2019) defines a themed restaurant as a place that involves conceptual ideas in its environment, food, and marketing. A successful themed restaurant can deliver their ideas comprehensively not only through restaurant attributes, theme (Clark and Wood, 1998; Kim et al., 2019), but also their high-end concepts and gimmick (WebstaurantStore, 2018). However, a

research gap of defining themed restaurant is created as existing literature review put less focus on how customers define and expect for a themed restaurant.

### ***Food Culture***

In general terms, food culture is the view culturally defined by a group of people in terms of food production, preparation and consumption (Monaco & Bonetto, 2018). All over the years, western food culture has been affecting every corner of the world (O’Kane, 2016) and cause cross-cultural differences in the food attitude of people in different countries (Rodríguez-Arauz et al., 2016). As a global city, Hong Kong has been greatly affected that luckily people hold a positive attitude to new food. Although Springer (2017) further emphasized that it provides Hong Kong an excellent condition to develop a newer breed of creative restaurants, existing literature reviews put heavy focus on discussing the impact of western food culture which leads to a research gap of looking into the impact from different angles.

### ***Market Trend***

The management teams of a restaurant take the advantages of sticking close to market development, demand, competition (Liu & Xue, 2010). The fruitful information represents the market trends which is the primary source of understanding the market and decision making (Lee et al., 2004). The management team should conduct enough research on food trend and demographics characteristics (Mealey, 2019) and listen to the voice of the market. Even Herr et al. (1991) found that W-O-M has a larger impact on consumer product judgment than other forms of information, existing literature reviews show less information on how customers treat market trend as a factor of affecting their intention towards visiting themed restaurants.

### ***Customer perception of a themed restaurant***

The article written by Kim et al. (2011) pointed out that consumer is willing to pay more for a similar menu offered by a themed restaurant if they understand the concept behind. Besides the concept, distinct characteristics such as atmosphere, quality of food and service are easier to shape customer perception of their own experience (Yrjölä et al., 2019). Alternatively, customers seek for the innovativeness of a company’s provision of experiences (Danneels, 2001). If themed restaurants can add newness to their products - food and experience, they can keep their product images fresh in customers’ perception (Ali et al., 1995) and grab their attention.

### ***The impact of Food Culture and Market Trend on the Development of Themed Restaurant***

In responding to the rapid change of the market trend, themed restaurants must be able to understand and forecast the future customers’ needs so that more new products and service catering to their needs and wants can be produced in advance (Louth, 1996). People’s taste is becoming more variable that they are increasingly towards healthier, plant-based food and drink (McDowell, 2019), it may affect the menu design and other aspects of the themed restaurants. Although the existing literature reviews simply indicate how some of the market trend attributes affect the themed restaurant’s development, a research gap occurred as customer’s perspective has been slightly ignored.

## **Methodology**

### ***Measurement***

This study is on the explanatory research nature with the adoption of quantitative research as Dowd (2018) indicated that it helps make the results generalized by inferential statistics process based on a large population. Convenience sampling is applied to recruit subjects and collect data during the COVID-19 pandemic (Crossman, 2019) with research questionnaire. Throughout the measurement, the research findings are expected to catch out and help explain the attributes discovered from customer's perspectives.

### ***Data Collection***

An online survey conducted through google platform has been divided into six sections with both Chinese and English versions. To collect data in a diverse way, different question types are adopted, such as single and multiple response, rating, ranking and five-point scale (DeFranzo, 2013). Strengthening the persuasion of the survey, the attributes included in the survey are referred and inspired by the study of Maclaurin, D., & Maclaurin, T (2000), Eufic (2006) and Forbes Communication Council (2018) respectively. On the other hand, secondary data collected from journal articles, blogs, website aided to support the central theme and definition of the two independent variables - food culture and market trend.

### ***Data Analysis***

In responding to the research nature, content analysis is adopted as it can link up the cause and effect (Audience Dialogue, 2012) to strengthen the trustworthiness of the data collected. In terms of the measurement scale, the basic nominal scale is used for easy identification of numbers and labeling (Formplus blog, 2019) collected from frequency typed questions. After classifying the demographic characteristics and general customer perception of the restaurant, this study adopts ordinal scale to understand the order of participants' preference, draw inference among the collected variables (Goff, 2018) as well as test for the correlation of important market trend and food culture attributes they selected. Last but not least, this paper also makes use of interval scale to test for the meaning between the numerical difference of two values (University of Regina, 2005). Attributes collected from the survey will be analyzed by employing the techniques of t-test, multiple regression and descriptive. In such a manner, this study is expected to identify the underlying meaning of the collected data and gain a deeper understanding of the customer's perspective on how they see the development of themed restaurant.

## **Results**

### ***Profile of the respondents***

A total of 96 valid respondents were collected (*Table 1*). Two gender groups were not equally distributed as female (n=72, 75%) was more than male (n=24, 25%). Most participants are of the age 22 or above (n=56, 58.3%) and others are from the group of 16-21 (n=40, 41.7%). Bachelor's degree (n=65, 67.7%) recorded as the most frequent educational level among the respondents, and

associate degree (n=26, 27.1%) was the second prevalent.

**Table 1: Demographic Characteristics of Respondents**

Characteristics	Frequency	Percentage (%)
Age:		
16-21	40	41.7
22 or above	56	58.3
Gender:		
Female	72	75
Male	24	25
Education:		
Higher Diploma	5	5.2
Associate Degree	26	27.1
Bachelor's Degree	65	67.7

### ***Customer Perception and Food Culture***

Table 2 presents the factors affecting customer perception of a themed restaurant. Out of the total number 66 respondents who have visited a themed restaurant within a year, most of them chose themed concept (n=58, 87.9%) as the most important factor, followed by atmosphere (n=44, 66.7%) and pricing (n=47, 71.2%) as the third place. Meanwhile, except atmosphere (t-value= 1.792,  $p>0.078$ ), the eight remaining customers' perception attributes (table 3)– themed concept (t-value =-4.142), service quality (t-value= 8.438), food quality (t-value= 7.184), menu (t-value= 13.181), pricing (t-value= 6.039), product (t-value= 15.365), product merchandising (t-value= 15.365), location (t-value= 12.734) and reputation (t-value= 8.348) perceive positive ( $p<0.01$ ) on customer perception. The result indicates that all attributes include in the respondent criteria when picking a restaurant, but atmosphere seems to have less importance.

**Table 2:** Customer Perception of a Themed Restaurant

Factors	Frequency	Percentage (%)
Themed Concept	58	87.9
Service Quality	19	28.8
Food Quality	21	31.8
Menu	11	16.7
Pricing	47	71.2
Product Merchandising	34	51.5
Location	5	7.6
Reputation	20	30.3
Atmosphere	44	66.7

**Table 3:** Comparison of means for customers' perception attributes

<i>Attributes</i>	<i>Mean</i>	<i>SD</i>	<i>t-value</i>	<i>p</i>
<i>Themed Concept</i>	<i>1.968</i>	<i>1.991</i>	<i>-4.142</i>	<i>.000</i>
<i>Service Quality</i>	<i>6.015</i>	<i>2.859</i>	<i>8.438</i>	<i>.000</i>
<i>Food Quality</i>	<i>5.312</i>	<i>2.575</i>	<i>7.184</i>	<i>.000</i>
<i>Menu</i>	<i>5.859</i>	<i>1.735</i>	<i>13.181</i>	<i>.000</i>
<i>Pricing</i>	<i>4.515</i>	<i>2.007</i>	<i>6.039</i>	<i>.000</i>
<i>Product Merchandising</i>	<i>6.359</i>	<i>1.749</i>	<i>15.365</i>	<i>.000</i>
<i>Location</i>	<i>5.953</i>	<i>1.855</i>	<i>12.734</i>	<i>.000</i>

<i>Reputation</i>	5.437	2.335	8.348	.000
<i>Atmosphere</i>	3.578	2.580	1.792	.078

---

$p < 0.05$ ,  $**p < 0.01$

### ***Market Trend***

The market trend attributes (table 4) – customer experience (t-value= -11.939), virtual reality (t-value= -3.936), education (t-value= 15.554) and chatbox (t-value= 23.493) recorded significant impact on the market trend ( $p < 0.01$ ) while personalized product has less impact (t-value= 3.047,  $p < 0.05$ ). Referring to table 5, the variable of habitual consumption tests significantly positive (unstandardized = .477,  $p < 0.05$ ). At the meantime, the remaining variables- positive attitude (unstandardized = -.113), healthy value (unstandardized = -.002) and innovativeness (unstandardized = -.084) do not impact much on developing themed restaurant in Hong Kong.

**Table 4:** Comparison of means for market trend attributes

<b>Attributes</b>	<b>Mean</b>	<b>SD</b>	<b>t-value</b>	<b>p</b>
Advanced Technology	4.541	2.748	1.931	.057
Customer Experience	2.145	1.521	-11.939	.000
Personalized Service	3.802	1.651	-1.174	.243
Personalized Product	4.468	1.507	3.047	.003
Virtual Reality	3.378	1.538	-3.936	.000
Interactive Content	4.126	1.793	.686	.494
Education	6.305	1.444	15.554	.000
Chatbox	7.189	1.323	23.493	.000

---

$*p < 0.05$ ,  $**p < 0.01$



**Table 5:** Regression analysis for developing themed restaurants in Hong Kong

Variable	Unstandardized	coefficients	<i>t</i> -value	<i>p</i> value
	B	Standard error		
(Constant)	1.774	1.060	1.673	.100
Positive Attitude	-.113	.197	-.078	.570
Habitual Consumption	.477	.217	2.196	.032*
Healthy Value	-.002	.023	-.102	.919
Innovativeness	-.084	.273	-.307	.760

\* $p < 0.05$ , \*\* $p < 0.01$

Adjusted  $R^2 = .002$ ,  $F = 1.031$ , significance  $F = .408$

### ***Development of Themed Restaurant in Hong Kong***

Among the variables of developing themed restaurants in Hong Kong, large potentials are positively significant (unstandardized = .374,  $p < 0.05$ ). Relatively, ideal place (unstandardized = -.025) and successful chances (unstandardized = .206) have no impact on developing themed restaurants in Hong Kong ( $p > .05$ ).

**Table 6:** Regression analysis for developing themed restaurants in Hong Kong

Variable	Unstandardized	coefficients	<i>t</i> -value	<i>p</i> value
	B	Standard error		
(Constant)	1.311	.531	2.471	.016
Ideal place	-.025	.146	-.169	.866
Large potentials	.374	.136	2.744	.008**
Successful chances	.206	.170	1.209	.231

\* $p < 0.05$ , \*\* $p < 0.01$

Adjusted  $R^2 = .229$ ,  $F = 6.052$ , significance  $F = .001$

## Discussion and Conclusion

### *Discussion and implications*

#### Discussion

The finding is in line with the previous studies of Kim et al. (2011) and Herr et al. (1991) on identifying pricing and reputation as essential factors of customers to choose a restaurant. As Allen (2017) suggested that themed concept link up each critical of a restaurant such as design, menu and price, the result proves the points of Elkins (2018) that a unique concept determines the restaurant position in the eyes of customers throughout the atmosphere, menu offered and the price charged. Making the concept visible in all aspects of a restaurant, like the Ninja – a destination restaurant with ninja servers, and a Japanese-village dining experience (Cameron, 2019) further emphasized that the vital relationship between themed concept and customer perception. Filimonau et al. (2017) also agreed that the re-designing menu can cater to customer choice by offering more dishes and increasing attractiveness at the same time. Moreover, the finding agrees with the previous literature of Yrjölä et al. (2019) on the importance of food quality and service quality.

However, Norton (2020) argued that food quality might not be a vital consideration of restaurant selection. The research performed by Konuk (2019) opposed this view that the perceived quality of food and service has a significant impact on the people's judgment on the restaurant and their satisfaction. Lo (2017) also holds the same view of the importance of food quality, pricing, location and reputation. Entrepreneur (2016) shared the same view on how the location is affective in business impressions as well. Thus, the finding connects with the research questions on what affects customer much on selecting a restaurant to visit.

The analysis confirms that attributes of increasing focus on customer experience, virtual reality and personalized service own a unique position in the eye on the customer. At the same time, innovativeness was unexpectedly recorded as less affection.

A research gap found in the literature is that Danneels (2001) claimed that adding newness to products is vital to shaping the customer experience. Even Kim, Tang and Bosselman (2018) showed their support by arguing that providing personalized service is one of the ways to show the innovativeness of the restaurant, the choices of respondents reflect that innovativeness seems not to affect much on the market trend.

Besides, the finding is different from the research conducted by Nambisan et al. (2019) on using digital technology is popular on the market and is surrounded by a businessman. This study provides opinions from a customer perspective which proves that the angle from the businessman is not equal to what consumers think which response to the significance of this study at the same time.

Fortunately, the existing literature of Cision (2018) supported the significance of chatbox on the usage of LiveChat to answer any of their concern and other auto functions such as online reservations. Moreover, Forbes Communication Council (2018) also defined education as one of

the market trends attributes to highlight critical objectives to satisfy guest's buying path. The positive finding of virtual reality also supported by Glowid (2020) of claiming to merge virtual reality into restaurant operation not only can turn the written food menu livelier and visualize but also help enhance the business image and its attractiveness.

Nevertheless, the result of positive habitual consumption among Hong Kong people is agreed with the existing literature written by Leavy (2019) of the claim that Hong Kong people have no limitation of eating time and cuisine as a wide range of cuisines are available in every corner of this international city. The data suggests that there are large potentials of an increasing number of themed restaurants opened in Hong Kong for the coming five years. The finding discloses the positive attitude the respondents have towards the business environment in Hong Kong. Unfortunately, Moon (2019) strongly disagreed that economic confidence will record a huge slump in the coming years because of the protests and the continuous US-China trade war. Lee (2019) also indicated that these situations would worsen the intrinsic strength of Hong Kong and leads to a vicious cycle of deteriorating economic outlook. Desai (2020) agreed that the economy will remain in a contraction mode if anti-government protests continue. Furthermore, the terrorism alert in Hong Kong comes along with the safety issue (Vines, 2020) as Toker et al (2015) pointed out that terrorism incidents could worsen the negative emotion and not limit to any location. This extreme stressor would decrease the level of investing confidently in Hong Kong (Raja et al., 2020).

However, Planning Department HKSARG (2016) opposed with these negative comments by pointing out that Hong Kong is the leader of international financial and business center which had achieved several high ranking of international competitiveness indexes. In addition, Joseph (2017) said that the core strength of the rule of law and transparency is convincing enough for any type of investor to run their business in Hong Kong. With no restriction of foreign ownership and free movement of capital, Hong Kong can still build a favorable business environment in the coming future (InvestHK, 2019) and overcome the threat brought by the social untrust. Although the finding reflects a positive attitude, it is doubtful whether there is a large potential to boost the development of themed restaurants in Hong Kong.

## **Implications**

This study has several implications for the restaurant industry to contribute to the enhancement of the themed restaurant operation. One of the managerial implications suggested is to conduct detailed marketing emphasizing on customer perception attributes. As customers expect something different from the angle of the businessman, managers can consider focusing on customer's requirements, especially the significant positive attributes stated in the findings. For companies in any of the product life cycle stage, they should try their best to listen to the voice of the market and do everything to retain a careful focus on this critical external stakeholder's need, which shows the sincere communication and active listening of the restaurants to either existing or potential guests. As long as the customers feel being respect in which their needs are being taken care, the positive attitude not only can provide things what customers want but also exceed their expectation and help create the positive dining experience.

Since the customer perception attributes reflect the factors of the market trend at a certain level, plus there is a strong belief that customer experience will overtake price as the key brand differentiator, managers should not underestimate the consequences brought by ignoring the

importance of the attributes, like the themed concept, products, menu, quality of food and service from the customer's point of view. It is vital for managers to put themselves into customers' shoes to figure out what customers truly want when selecting a dining place and in what way the restaurant should conduct the promotion to differentiate themselves from their competitors and gain public support. Offering more unique, reliable, rich value and themed-visible products can stimulate customer purchasing desire (Presecan, 2020). Thus, paying attention to customers' criteria could help the restaurants to build the reputation and brand image to maintain repeated guests and attract potential guests at the same time. Most importantly, it is to create a more significant chance to survive under this keen catering industry competition.

Moreover, as this study reveals the importance of virtual reality and chatbox function, managers are encouraged to focus on these attributes during their decision-making process. They can refer to their existing competitors of the technology used and modify some of the functions. Not limited to local competitors, themed restaurants locate overseas are also excellent examples to learn. From the E-tables of the Asian-fusion London restaurant – Inamo to Ultraviolet – a restaurant in Shanghai which uses video screen and speaker to provide an audio-visual experience (Shu, 2015), it proves that restaurants employ technology as a gimmick to enhance customer experience are most likely to create a remarkable image on the market all around the world. On the other hand, managers are also suggested to merge technology into the decoration, like Palais de Tokyo in Paris to create a sense of high tech through coloured LED lighting (Sulistiawan, 2010). Nevertheless, this study finds out the chatbox plays a vital role; managers can reexamine the need of designing chatbox and apply it to the restaurant website it can shorten the response time to avoid keeping the customers on hold (Unadkat, 2017) and increase the retention rate. Answering customer inquiries using the shortest time enables the restaurant to gain a better impression.

In addition to habitual consumption, it is suggested that managers should extract the characteristics of Hong Kong people and put them into all aspects of its business. Having a prediction on people's habits can activate the practical response and act as evidence of the decision-making process (Ji & Wood, 2007). Based on the points specified, the management team can have a deeper and clear understanding in what way the restaurant should operate, either in the form of fast food, fine dining or any others match the consumption pattern. The data information can also be applied to the menu design to offer more types of dishes to fit with Hong Kong people's taste and stick close to the market trend as well.

Regarding the belief of the large potential of increasing number themed restaurant open in Hong Kong for the coming five years shown in the finding, management teams are strongly suggested to have proper risk management focusing on this aspect. Even the finding reflects positive attitudes towards the business environment in Hong Kong; unforeseeable threats are still being treated as a major factor threatening the survival chance of each restaurant. Therefore, market, liquidity and operational risk should be identified and analyzed by using the key risk indicators (Hong Kong Monetary Authority, 2019). Essentially, the management team will have a clear understanding of market development. Incorporating project risk management into either schedule or cost planning provides the management team with a clear and accurate outlook of the contingency budget, which benefits them from having a better scenario of resources allocation. Consequently, having adequate risk management protects the restaurant from staying away from the uncertainty. As numerous unknown factors, such as anti-government protest is affecting the Hong Kong business

environment for the coming years, there is no reason for managers to pay less attention onto the changes in the public's attention.

As the global community confronts the social crisis under covid-19 (Un news, 2019), there may be a dynamic change of consumer's spending pattern, such as the short-term consumption points and the increasing willingness of choosing e-commerce. Facing such challenges, the research findings still contribute to the industry as the results are built on the fundamental perception of the customers. As long as the management team of themed restaurants adhere to stick close to the market trend, conduct enough research of any aspects related and make every effort in turning those attributes into practice, the industry can still gain the customer's support and maintain their business.

### ***Conclusion***

This study examines the relationship between food culture and market trend with the development of a themed restaurant in Hong Kong from the customers' perspective. Although this study provides valuable insight of customer perspective and indicate some valuable attributes on restaurant selection, some limitations are worth to noted, and future study should be considered.

### ***Limitations of this study***

The first limitation concerns the insufficient sample size. This study only collected 96 respondent's opinions from the online survey. The small sample size brought difficulties in finding a more significant relationship from the data, which made the results may not be as representative as expected. Therefore, future study should extend the time of data collection and consider adopting other distribution methods. Through posting and forwarding the online survey link onto different social media platforms, with the extended collection time, the sample size is expected to be larger and more symbolic as possible.

Besides, the limitation of the age group should be noted. This study only indicates two age groups when conducting an online survey, which may not be specific and comprehensive enough to discuss the insight provided from the customer perspective. Thus, the future study should consider dividing more age groups as possible, so that more detail opinions can be collected and lead to a valuable discussion on the research question.

Moreover, this study was also limited to time constraints. As the time given on data collection and analysis is limited, the research problem is hard to complete than expected. It caused time pressure which also limited reaching a higher number of respondents as possible. Therefore, a longitudinal study is required for future study so as to answer the research problem in detail.

### **Reference**

- Ali, A., Krapfel, R., LaBahn, D. (1995). Product innovativeness and entry strategy: Impact on cycle time and break-even time. *Journal of Product Innovation Management*, 12(1), 54–69.
- Allen, K. (2017). Why is Restaurant Concept Important? Retrieved from <http://blog.etundra.com/tundra-restaurant-supply/restaurant-concept-important/>

- Audience Dialogue. (2012). Know Your Audience: chapter 16 Content analysis. Retrieved from <http://www.audiencedialogue.net/kya16a.html>
- Cameron, S. (2019). About Theme Restaurants. Retrieved from <https://bizfluent.com/about-4740123-theme-restaurants.html>
- Cision. (2018). Chatbox Launches Messaging Ecosystem for Personalized Customer Experiences at Scale. Retrieved from <https://www.prnewswire.com/news-releases/chatbox-launches-messaging-ecosystem-for-personalized-customer-experiences-at-scale-300682719.html>
- Clark, M. A., Wood, R. C. (1998). Consumer loyalty in the restaurant industry: a preliminary exploration of the issues. *Int. J. Contemp. Hosp. Manag.* 10(4), 139-144.
- Crossman, A. (2019). What Is a Convenience Sample? Retrieved from <https://www.thoughtco.com/convenience-sampling-3026726>
- Danneels, E. (2001). Product innovativeness from the firm's perspective: its dimensions and their relationship with project selection and performance. *Journal of Product Innovation Management*, 18(6), 357–373.
- DeFranzo, S. E. (2013). When Designing Surveys, Consider Question Types. Retrieved from <https://www.snapsurveys.com/blog/designing-surveys-question-types/>
- Desai, U. (2020). 2020: The economic scars from HK protests. Retrieved from <https://asiatimes.com/2019/12/2020-the-economic-scars-from-hk-protests/>
- Dowd, M. (2018). Advantages & Disadvantages of Qualitative & Quantitative Research. Retrieved from <https://www.theclassroom.com/advantages-disadvantages-of-qualitative-quantitative-research-12082716.html>
- Elkins, M. (2018). Why Your Restaurant's Concept Is Critical: Successful Restaurant. Retrieved from <https://www.waiterio.com/blog/en/successful-restaurant/why-your-restaurants-concept-is-critical>
- Entrepreneur. (2016). The Importance of Location in Business. Retrieved from <http://entrepreneurandinvestor.com/the-importance-of-location-in-business/>
- Eufic. (2006). The Factors That Influence Our Food Choices. Retrieved from <https://www.eufic.org/en/healthy-living/article/the-determinants-of-food-choice>
- Filimonau, V., Lemmer, C., Marshall, D., & Bejjani, G. (2017). Restaurant menu re-design as a facilitator of more responsible consumer choice: An exploratory and preliminary study. *Journal of Hospitality and Tourism Management*, 33, 73–81.
- Forbes Communication Council. (2018). Council Post: 12 Marketing Trends To Take Advantage Of This Year. Retrieved from <https://www.forbes.com/sites/forbescommunicationscouncil/2018/02/14/12-marketing-trends-to-take-advantage-of-this-year/#3de89dfd7401>
- Formplus Blog. (2019). 7 Types of Data Measurement Scales in Research. Retrieved from <https://www.formpl.us/blog/measurement-scale-type>
- Glowid. (2020). AR/VR in Restaurants : Unveiling Its Benefits, Challenges & Use Cases. Retrieved from <https://aglowiditsolutions.com/blog/ar-vr-in-restaurants/>
- Goff, S. (2018). What Are the Advantages & Disadvantages of Using Ordinal Measurement? Retrieved from <https://sciencing.com/advantages-disadvantages-using-ordinal-measurement-12043783.html>
- Gunawan, J. (2019). Cute dim sum is huge in Hong Kong and we love it!:Honeycombers. Retrieved from <https://thehoneycombers.com/hong-kong/cute-dim-sum-hong-kong-novelty-food/>

- Herr, P., Kardes, F., Kim, J., 1991. Effects of word-of-mouth and product attribute information on persuasion: an accessibility–diagnosticity perspective. *Journal of Consumer Research*, 17(4), 454–462.
- Hong Kong Monetary Authority. (2019). Risk Management. Retrieved from <https://www.hkma.gov.hk/eng/key-functions/reserves-management/risk-management/>
- InvestHK. (2019). Open Business Environment. Retrieved from <https://www.investhk.gov.hk/en/why-hong-kong/open-business-environment.html>
- Ji, M., & Wood, W. (2007). Purchase and Consumption Habits: Not Necessarily What You Intend. *Journal of Consumer Psychology*, 17(4), 261–276.
- Joseph, T. (2017). HK must play to its core strengths for another 20 years of prosperity. Retrieved from <https://www.scmp.com/comment/insight-opinion/article/2097301/hong-kong-must-play-its-core-strengths-another-20-years>
- Kim, D., Magnini, V. P., & Singal, M. (2011). *The effects of customers' perceptions of brand personality in casual theme restaurants*. *International Journal of Hospitality Management*, 30(2), 448–458.
- Kim, E., Tang, L., & Bosselman, R. (2018). Measuring customer perceptions of restaurant innovativeness: Developing and validating a scale. *International Journal of Hospitality Management*, 74, 85–98.
- Kim, J.-H., Song, H., & Youn, H. (2019). *The chain of effects from authenticity cues to purchase intention: The role of emotions and restaurant image*. *International Journal of Hospitality Management*, 102354.
- Konuk, F. A. (2019). The influence of perceived food quality, price fairness, perceived value and satisfaction on customers' revisit and word-of-mouth intentions towards organic food restaurants. *Journal of Retailing and Consumer Services*, 50, 103–110.
- Lai, O. (2019). Hong Kong's best quirky restaurants and cafés. Retrieved from <https://www.timeout.com/hong-kong/restaurants/hongkongs-best-quirky-restaurants-and-cafes>
- Leavy, J. (2019). 10 Ways to Immerse Yourself In Hong Kong's Food Culture. Retrieved from <https://www.thetravel.com/hong-kong-food-culture-tips/>
- Lee, D. J., Sirgy, M. J., Brown, J. R., & Bird, M. M. (2004). Importers' benevolence toward their foreign export suppliers. *Journal of the Academy of Marketing Science*, 32(1), 32–48.
- Lee, G. (2019). Protests put Hong Kong's business hub reputation at risk: Fitch. Retrieved from <https://www.scmp.com/business/banking-finance/article/3041859/hong-kongs-deteriorating-economy-put-citys-reputation>
- Liu, Y., Li, Y., & Xue, J. (2010). Transfer of market knowledge in a channel relationship: Impacts of attitudinal commitment and satisfaction. *Industrial Marketing Management*, 39(2), 229–239.
- Lo, D. (2017). 10 Deciding Factors Diners Consider Before Choosing a Restaurant. Retrieved from <https://www.foodandwine.com/travel/restaurants/restaurant-deciding-factors-survey>
- Louth, J. D. (1996). The changing face of marketing. Retrieved from <https://www.mckinsey.com/business-functions/marketing-and-sales/our-insights/the-changing-face-of-marketing>
- Maclaurin, D., & Maclaurin, T. (2000). Customer perceptions of Singapore's theme restaurants. *The Cornell Hotel and Restaurant Administration Quarterly*, 41(3), 75–6.

- McDowell, E. (2019). 20 foods expected to be on the rise in 2020, from Impossible Burgers to oat milk. Retrieved from <https://www.businessinsider.com/popular-foods-everyone-will-be-eating-in-2020#reishi-mushrooms-which-can-be-eaten-whole-or-made-into-tea-are-attracting-consumers-with-their-potential-immune-system-benefits-4>
- Mealey, L. (2019). The Basics of Choosing a Restaurant Theme Concept. Retrieved from <https://www.thebalancesmb.com/the-basics-of-choosing-a-restaurant-theme-2888693>
- Monaco, G. L., & Bonetto, E. (2018). Social representations and culture in food studies. *Food Research International*.
- Moon, L. (2019). Hong Kong will stay in recession next year, say the city's accountants. Retrieved from <https://www.scmp.com/business/banking-finance/article/3038240/hong-kongs-battered-economy-will-continue-shrink-next-year>
- Nambisan, S., Wright, M., & Feldman, M. (2019). The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes. *Research Policy*.
- Norton, M. (2020). 7 Things to Consider When Choosing a Restaurant. Retrieved from <https://delishably.com/dining-out/how-to-choose-a-restaurant-2>
- O'Kane, G. (2016). A moveable feast: Contemporary relational food cultures emerging from local food networks. *Appetite*, 105, 218–231.
- Planning Department HKSARG. (2016). Hong Kong In The Global Context. Retrieved from [https://www.hk2030plus.hk/document/Hong%20Kong%20in%20the%20Global%20Context\\_Eng.pdf](https://www.hk2030plus.hk/document/Hong%20Kong%20in%20the%20Global%20Context_Eng.pdf)
- Presecan, M. (2020). The customer perspective within the Balanced Scorecard. Retrieved from <https://www.performancemagazine.org/customer-perspective-balanced-scorecard/>
- Raja, U., Azeem, M. U., Haq, I. U., & Naseer, S. (2020). Perceived threat of terrorism and employee outcomes: The moderating role of negative affectivity and psychological capital. *Journal of Business Research*, 110, 316–326.
- Rodríguez-Arauz, G., Ramírez-Esparza, N., & Smith-Castro, V. (2016). Food attitudes and well-being: The role of culture. *Appetite*, 105, 180–188.
- Shu, L. (2015). World's High-Tech Restaurants. Retrieved from <https://www.digitaltrends.com/cool-tech/worlds-high-tech-restaurants/>
- Springer, K. (2017). Explore Hong Kong's history through its food. Retrieved from <https://edition.cnn.com/travel/article/hong-kong-food-history/index.html>
- Sulistiawan, S. (2010). The World's Most Innovative Restaurant Interiors. Retrieved from <https://www.fastcompany.com/1662069/the-worlds-most-innovative-restaurant-interiors>
- Thacker, K. (2017). What The Hell Does Innovation Mean For Restaurants? Retrieved from <https://www.uncorkd.biz/blog/what-is-restaurant-innovation/>
- Toker, S., Laurence, G. A., & Fried, Y. (2015). Fear of terror and increased job burnout over time: Examining the mediating role of insomnia and the moderating role of work support. *Journal of Organizational Behavior*, 36, 272–291.
- Unadkat, R. (2017). What Chatbots Can Do for Nonprofits: Top 5 Things. Retrieved from <http://forums.techsoup.org/cs/community/b/tsblog/archive/2017/08/14/ai-with-a-social-impact-the-top-5-reasons-why-nonprofits-should-explore-chatbots.aspx>
- University of Regina. (2005). Measurement of variables. *Social Science* 201, 61-86.
- Un News. (2020). 'New dynamic' needed to overcome negative impacts of COVID-19 worldwide. Retrieved from <https://news.un.org/en/story/2020/07/1067801>
- Vines, S. (2020). Hong Kong terrorism alert: serious threat or a bid to smear the protest movement? Retrieved from <https://hongkongfp.com/2020/03/28/hong-kongs-terrorism->



- alert-credible-serious-threat-bid-smear-protest-movement/  
WebstaurantStore. (2018). Choosing a Restaurant Concept. Retrieved from  
<https://www.webstaurantstore.com/article/149/how-to-choose-a-restaurant-concept.html>
- Yrjölä, M., Rintamäki, T., Saarijärvi, H., Joensuu, J., & Kulkarni, G. (2019). A customer value perspective to service experiences in restaurants. *Journal of Retailing and Consumer Services*, 51, 91–101.

# **Development and testing of tourism motivation scale: Based on Insta-famous perspectives of college students**

*Reardon Feng, ZiQian Zeng, ManJie Hu, WenFei Wang,  
ShengYi Cheng, YiQuan Zhang & AiJing Liu*

## **Abstract**

**Faced with the increasingly position of college students in the tourism consumer market in recent years, tourism researchers do not have a unified measurement tool to measure college students tourism motivation. For the complex and diversified tourism motivations of college students, this study develops and tests a new scale (including 8 dimensions and 20 indicators) suitable for college students ' tourism motivations in accordance with strict scale development steps.**

**Keywords: Insta-famous, college students, Development scale**

## **Introduction**

在网络占据营销主流媒体的今天，大学生这个群体在旅游市场发展中所起的作用不容忽视。随着时间的推移，新一代大学生掌握了一些社交媒体的话语权，他们的旅行偏好也在迭代出新的旅行产品和话题，在旅行过程中，大学生既是信息的接受者又是信息的传递与发展者。因此，过去的研究对于如今的新一代大学生而言，已经逐渐缺乏了代表性，使得如今对于大学生出行的研究以及后续市场的开发都无从接力。而另一方面，由于受网络和新媒体的影响，大学生旅游的动机正逐渐趋同，呈现从众式出行，目前诸多爆现象级的新晋网红打卡地正是这一点的证明。貌似矛盾而又巧妙融合的双重特征使得大学生旅行市场研究本身便具有了进一步探究的必要性。

## **Literature Review**

在旅游领域中聚集于旅游动机的研究不计其数。虽然以旅游动机来解释游客行为的差异并不全面，但是旅游动机仍然被认为是驱动游客出游的关键动力（Crompton,1979）[1]。旅游动机在旅游研究中的重要性体现在它集中于“游客为什么出游”这一难点。也正是因为旅游动机的重要性，吸引了大量学者对它进行研究，试图探究旅游动机背后运行的真正机理。

## 二.1 旅游动机理论研究

较广为人知的动机定义：动机是激发、引导和集成个体行为的一种内在因素。（Murray，1964）[2]。动机既是行为的催化剂，同时也是一种被刺激的需求(刘俊亿等，2010)[3]。当人们的需求得不到满足时，会产生一种焦虑和不安的不平衡心理，此时就会促使个体采取行动来满足需求，因而动机是诱发人们付诸行动的原动力(Crompton，1979)[1]。关于旅游动机，研究者们赋予的定义略有不同。李罕梁（2015）将旅游动机定义为驱动游客到访旅游目的地任何因素[4]。陶玉霞（2015）认为人们会旅游是为了通过旅游体验而获得自我价值和存在感的重新认知[5]。

旅游动机的理论解释常涉及 Maslow 的“需求层次理论”(Maslow，1943)[6]、Dann 的“推—拉理论”(Dann，1977)[7]和 Iso-Ahola 的“逃—寻理论”(IsoAhola，1982)[8]等。

Pi-Sunyer, Oriol（1982）运用马斯洛需求层次理论对游客动机和行为的研究。他分析了由美国、欧洲、加拿大和澳大利亚近 200 名游客提供的 400 个旅游经历或事件[9]。Lee 和 Pearce (2005)提出了旅行生涯模式(TCP)理论,认为旅行生涯模式可以被概念化为 3 个动机层次，核心动机、中间层动机、外层动机[10]。Yuan 和 McDonald (1990)用推拉理论研究日本、法国、西德和英国游客出国参加休闲型旅游的动机[11]。旅游研究中相对来说，推拉理论被更多地接受并运用在各类研究中(Jang, Cai,2002; Pan, 2012; Prayag, Hosany, 2014; Yuan, McDonald, 1990)[11-14]。

王晓蓉、彭丽芳、李歆宇（2016）基于整合理性行为理论和自我决定理论，构建旅游动机中“分享行为”的理论模型，弥补了已有旅游体验分享行为研究的理论缺陷[15]。陶玉霞（2015）在回顾乡村旅游动力文献时提出已有的推—拉理论和逃避—追求二分法中作为推力的外因已在学术界达成共识，而拉力的研究还不够深入[5]。研究发现出境游客中感受最为强烈的是人际限制因素并且还发现了动机与感知限制之间的相互关系。谢彦君（2015）分析黑色旅游的概念框架，得出旅游者出于不同目的前往黑色旅游地的最终指向是为了获得愉悦感，并将黑色旅游体验纳入愉悦体验框架下[16]。

由于旅游动机理论是本研究的重要概念基础,因此这一部分非常详细地回顾了旅游动机的

相关文献。讨论了旅游动机研究中对马斯洛需求层次理论的直接或间接运用，重点介绍了推拉理论在国内外的旅游研究中的应用。尽管有很多学者相信推动和拉动因素都应该作为旅游动机,另外不少研究者更倾向于对推动和拉动概念加以区分,认为推动因素才是真正意义上的动机因素,而拉动因素是目的地属性或吸引要素。

## 二.2 旅游动机影响因素研究

单浩杰（2015）从呼和浩特乡村旅游者的旅游动机，旅游满意度以及旅游要素的需求分析三个方面来研究了如何提高乡村旅游者的旅游满意度，给出了这三个方面存在的特征问题并且提出了乡村旅游的合理化建议[17]。学者谷晓萍（2014）等对游客的人口统计变量，地域特征，行为特征，消费特征及感知特征进行了研究发现了不同年龄阶段的旅游者对景区的偏好程度也不一样，同时收入也是影响旅游者选择目的地的因素，并且旅游者对森林公园的卫生清洁不满意度最高[18]。学者杨建明,余雅玲,游丽兰（2015）以福州国家森林公园为例,通过实地问卷调查，对问卷的调查结果进行探索性因子分析，将福州国家森林公园游客的游憩动机归纳为6个构面[2]。程圩（2019）从打工度假的角度为切入点，将打工度假的旅游动机分成3类因子，即是能力提升、开拓眼界和摆脱现状[19]。梁溶方（2019）选取国内知名度和口碑较高的携程旅游网和马蜂窝网作为样本采集对象，以百度旅游和同程旅游网作为游记样本提取网站，根据网络文本分析法进行挖掘分析，将旅游者的动机分为体验动机、认知动机和寻求动机，以分析桂林旅游消费者的需求[20]。

通过上文对旅游动机影响因素的综述，可以发现现有研究已经大量关注游客外出旅游的动机需求因素，但是现有研究大都基于主流理论框架的静态视角加上以特定的旅游目的地或旅游活动，研究范围局限，对应用的推广有相当大的困难和挑战。

## 二.3 研究述评

总的来说，现有关于旅游动机的测量已有大量的研究，但本研究关注的动机影响因素研究中存在着一大欠缺。在旅游发展越来越成熟的市场竞争条件下,国内游客的动机对旅游目的地影响正日益突显，以特定目标群体为对象的研究将会成为研究热点。

因此，为弥补现有研究的不足，本研究整合大量前人在个体层面上的旅游动机文献，首次

将旅游动机与当下“网红热”同时相结合进行研究，开发并检验基于大学本科生视角的旅游动机量表。

## Methodology

本研究遵循严格的量表开发步骤，在定性访谈及文献整理的基础上归纳出原始题项 49 道（其中特征问题 4 项，旅游动机问题 44 项，测谎题 1 项），试调查后在受访者意见反馈和成员讨论下精炼合并题项，最后剩余题项 34 道（其中特征问题 4 项，旅游动机问题 29 项，测谎题 1 项）。团队于 2019 年 11 月 23-25 日进行第一次正式调查，所得两百余份问卷在删除废弃数据后，通过 SPSS20.0 进行探索性因子分析确定八个主成分下 29 个问题的成分矩阵系数，同时删去无用指标 9 项，进一步精简量表。团队于 2019 年 12 月 2 日-6 日进行第二次正式调查，所得三百余份问卷通过 Amos20.0 构建模型，进行确认性因子分析。最后再次通过 SPSS 进行信度效度检验。

### 三.1 定性研究

在访谈的前期过程中，本研究通过文献阅读从前人的研究中确定特征问题题项 4 个，旅游动机问题题项 39 个作为量表的基础，而后为使量表与时下旅游热点结合，本研究于 2019 年 11 月分别在诸多大学进行抽样访谈。

访谈资料收集采用半结构访谈法。访谈围绕以下几个问题展开访谈：请问您上一次去旅游是哪里、什么时候？请问您出于什么原因选择这个地方？请问您目前有哪些想去的旅游地呢？请问您在这些地方中选择一个最想去的，是出于什么原因选择这个地方呢？

合计访谈人数为 36 人，单次访谈时间在 10 到 30 分钟不等。得到新增量表题项 5 个，扩充和完善了现有量表。最终形成量表题项 49 道（其中特征问题 4 项，旅游动机问题 44 项，测谎题 1 项）。

三.2 原始题项生成及修正

在文献阅读和访谈后，在成员讨论下将所得题项分为八个维度：增长见识、欣赏美景、探索自身极限、自我实现、追求刺激、充实内心、逃离日常、追寻浪漫。

之后发放 25 份问卷进行试调查，最终形成量表题项 34 个原始题项（其中特征问题 4 项，旅游动机问题 29 项，测谎题 1 项）。

维度	原始题项
增长见识 Dimensions A	旅行可以学习新的事物 旅行过程中可以提升个人技能 旅行可以认识各种不同的人 为了增加自己对旅游地的了解 为了感受当地的特色文化 旅行可以与当地人交流
欣赏美景 Dimensions B	欣赏人文景观 欣赏自然风光 短视频的宣传
探索自身极限 Dimensions C	可以接触新鲜的事物 明晰自己的能力
自我实现 Dimensions D	旅行帮我获得成就感 旅行可以增强我的自信
追求刺激 Dimensions E	获得大胆的冒险经历 寻找震撼的难忘的体验 听说觉得目的地好玩 跟随网红、明星足迹 体验时尚潮流的场所
充实内心 Dimensions F	旅游可以让我更好地认识自己 旅游可以让我变得有创造力 旅游可以让我丰富内心精神世界
逃离日常 Dimensions G	旅游可以让我避免人际间的压力 旅游可以让我远离人多的环境 旅游可以让我远离家庭 旅游可以让我享受一个人的状态
追寻浪漫 Dimensions H	旅游可以让我寻找浪漫关系 更多和异性朋友相处

表 1 大学生旅游动机量表初始题项

Results

四.1 探索性因子分析

本研究首先使用 SPSS 21.0 软件，采用主成分分析法，对基于大学生的旅游动机量表进行探索性因子分析。因子分析 KMO 值为 0.895，Bartlett 的球形检验的方差近似值为 8799.92，自由度 df 值为 528，显著性水平达 0.000，表明分析数据总体呈正态分布，适合使用因子分析。采用最大方差转轴法，提取了 8 个特征值在 1.0 以上的主成分，累计解释 65.99% 的方差。根据 Straub 的建议，应剔除在所有因素上负载值均低于 0.5 或在多个因素上存在交叉负载（cross loading）的计量项目。因此，在八个分类中，删除了“增长见识”中的 1 个题项、“欣赏美景”中的 1 个题项、“追求刺激”中的 3 个题项、“充实内心”中的 2 个题项、“逃离日常”中的 2 个题项，对剩余 20 个计量项目进行重新分类，最后分为 8 类，然后对这 20 个计量成分进行主成分分析。分析结果（表 1）显示，基于大学生的旅游动机包括了 8 个特征值在 1.0 以上的主成分，累计解释 65.99% 的方差，而未调整前的主成分分析结果包括了 9 个特征值在 1.0 以上的主成分，累计解释 67.25% 的方差。

维度	原始题项
增长见识 Dimensions A	旅行可以学习新的事物 旅行过程中可以提升个人技能 旅行可以认识各种不同的人 为了增加自己对旅游地的了解 旅行可以与当地人交流
欣赏美景 Dimensions B	欣赏人文景观 欣赏自然风光
探索自身极限 Dimensions C	可以接触新鲜的事物 明晰自己的能力
自我实现 Dimensions D	旅行帮我获得成就感 旅行可以增强我的自信
追求刺激 Dimensions E	获得大胆的冒险经历 寻找震撼的难忘的体验
充实内心 Dimensions F	旅游可以让我更好地认识自己 旅游可以让我变得有创造力 旅游可以让我丰富内心精神世界
逃离日常 Dimensions G	旅游可以让我避免人际间的压力 旅游可以让我远离人多的环境
追寻浪漫 Dimensions H	旅游可以让我寻找浪漫关系 更多和异性朋友相处

表 3 旅游动机量表修改后题项

测量题项	增长见识	欣赏美景	探索自身极限	自我实现	追求刺激	充实内心	逃离日常	追寻浪漫
A1	0.722							
A2	0.744							
A3	0.84							
A4	0.743							
A5	0.811							
B1		0.884						
B2		0.85						
C1			0.909					
C2			0.807					
D1				0.779				
D2				0.833				
E1					0.873			
E2					0.883			
F1						0.721		
F2						0.851		
F3						0.914		
G1							0.783	
G2							0.894	
H1								0.721
H2								0.923
特征值	10.487	2.501	1.713	1.679	1.544	1.463	1.29	1.102
解释的方差	31.78%	7.58%	5.19%	5.09%	4.68%	4.43%	3.91%	3.34%
累计解释的方差	31.78%	39.36%	44.55%	49.64%	54.31%	58.75%	62.65%	65.99%

表 4 测量题项的主成分分析结果

## 四.2 确认性因子分析

在因子分析的基础上，笔者对 20 个旅游动机变量构建模型进行分析，进一步检验该量表的信度和效度，确认性因子分析的结果表明，计量模型与样本数据的拟合程度较好，样本的信度与效度得到良好保证。



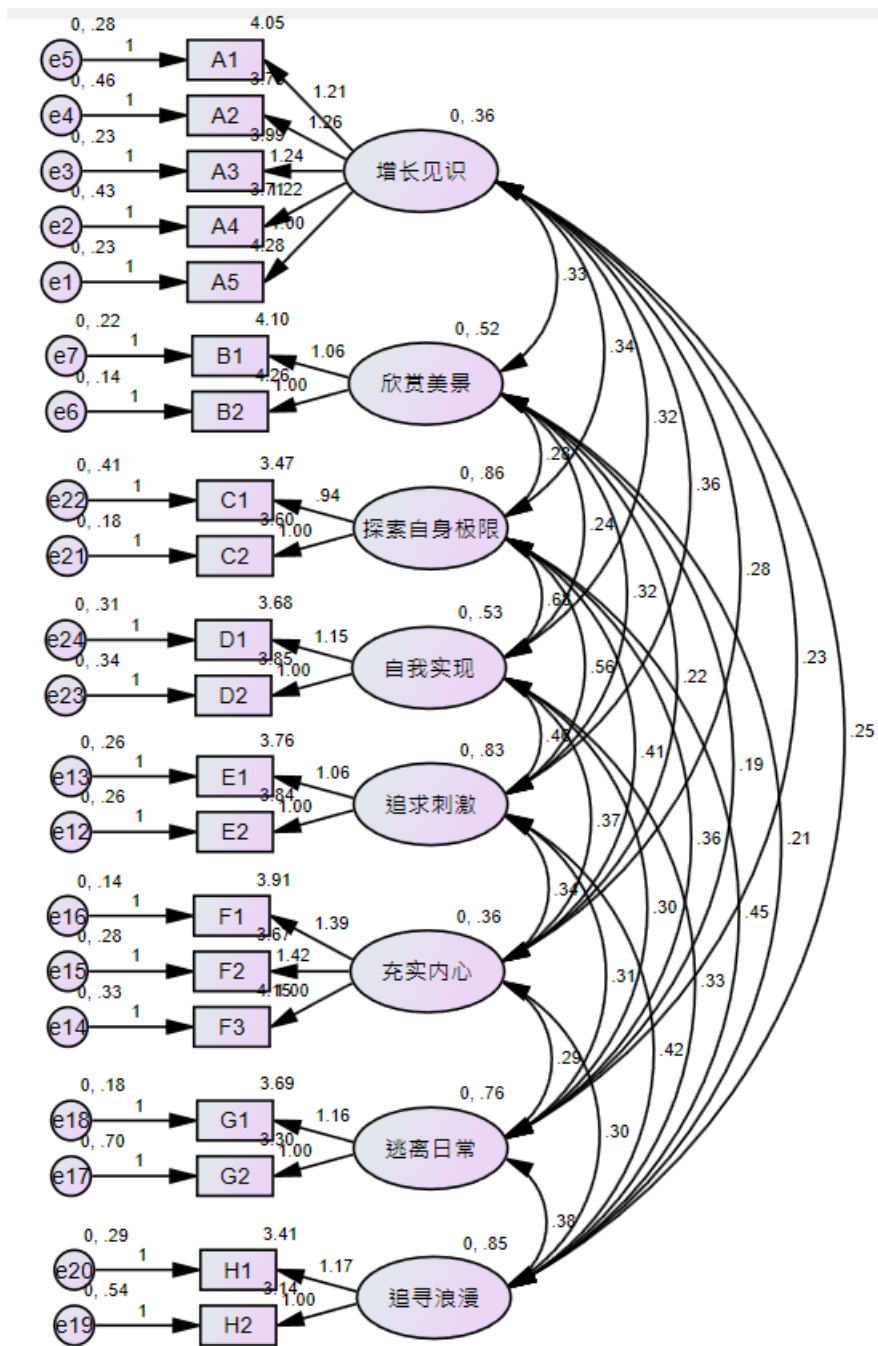


图1 八维度旅游动机 Amos 模型

使用 AMOS 软件建立模型并对其进行分析，从标准化后的因子载荷值可以看出，潜变量与显变量的相关系数都在 0.7 以上，二者的依赖程度较强，收敛效度较好。除了“充实内心”和“增长见识”两个指标的 AVE 值低于 0.5 以外，其他变量的 AVE 值都达到了 0.5 和 0.7 以

上的标准，总体来说结构变量内部一致性较高，显变量解释潜变量的程度较高，各潜变量具有较好的收敛效度。对变量进行因子分析，累计解释的方差为均大于 60%，主要集中在 80%以上，说明提取的公因子可以解释原变量绝大多数的内容。

整体拟合系数					
MODEL	CMIN/DF	RMSEA	CFI	TLI	NFI
系数	4.61	0.086	0.924	0.898	0.905

表 4 整体拟合系数表

为检验变量间的区分效度，本研究通过 Amos 软件求得主成分之间相关系数，如下表所示。通过观察数据可知，除了“追求刺激”与“探索自身极限”的相关系数等于 0.564 外，全部因子相关系数皆低于 0.5，区分效度较好，而上述两因子的相关系数皆低于其本身的 AVE，即各因子之间具备了相关性又有一定的区分度。

	增长见识	欣赏美景	探索自身极限	自我实现	追求刺激	充实内心	逃离日常	追寻浪漫
增长见识	0.848							
欣赏美景	0.298	0.361						
探索自身极限	0.334	0.374	0.531					
自我实现	0.448	0.413	0.675	0.863				
追求刺激	0.417	0.337	0.461	0.564	0.833			
充实内心	0.205	0.221	0.236	0.277	0.321	0.516		
逃离日常	0.245	0.28	0.323	0.341	0.361	0.33	0.362	
追寻浪漫	0.378	0.286	0.3	0.359	0.305	0.19	0.231	0.76

表 5 区分效度表

### 四.3 信度与效度分析

从标准化后的因子载荷值可以看出，潜变量与显变量的相关系数都在 0.7 以上，二者的依赖程度较强，收敛效度较好。除了“充实内心”和“增长见识”两个指标的 AVE 值低于 0.5 以外，其他变量的 AVE 值都达到了 0.5 和 0.7 以上的标准，总体来说结构变量内部一致性较高，显变量解释潜变量的程度较高，各潜变量具有较好的收敛效度。同时量表的 Cronbach’s α 均大于 0.7，各个维度之间具有很高的一致性。所有变量的 AVE 值和组合信度也基本达到了 0.5 和 0.7 的最低标准，数据的结构效度和区分效度都得到验证。综上所述，模型通过潜变量和计量项目的全面信度检验，表明本研究的测量量表是可靠的。

因子	测量题项	因子载荷	AVE	组合信度	Cronbach's Alpha
增长见识	A1	0.782	0.362	0.692	0.886
	A2	0.744			
	A3	0.840			
	A4	0.743			
	A5	0.811			
欣赏美景	B1	0.884	0.516	0.875	0.856
	B2	0.850			
探索自身极限	C1	0.873	0.833	0.866	0.845
	C2	0.883			
自我实现	D1	0.909	0.863	0.824	0.786
	D2	0.807			
追求刺激	E1	0.779	0.531	0.885	0.870
	E2	0.833			
充实内心	F1	0.721	0.361	0.786	0.863
	F2	0.851			
	F3	0.914			
逃离日常	G1	0.783	0.848	0.832	0.797
	G2	0.894			
追寻浪漫	H1	0.721	0.760	0.850	0.823
	H2	0.923			

表 6 收敛效度表

## Discussion and Conclusion

### 五.1 研究结论与讨论

本研究发现相较于其他动机而言，大学本科生对自我实现和追寻浪漫更为重要，其潜变量下观察变量因子载荷超过 0.9，而增长见识、追求刺激与旅游动机之间关联较弱，观察变量因子载荷多位于 0.7 层次。对于这一结果的几个可能解释是，其一，这些原因与大学本科生的高文化程度相冲突，导致吸引力不足，也与如今互联网时代的特点有关，由于人们获取信息的渠道越来越丰富，所以增长见识并不一定需要通过旅游来达成；其二，这些旅游方式是作为旅游地当地的一种娱乐休闲方式而存在，是“在某地而想要玩”的一种旅游方式、而不是“想要玩而去某地”的一种旅游动机。

### 五.2 理论贡献与启示

本研究在将当下旅游热点与大学生旅游动机相结合起来的有效测量基础上，旨在开发与检验新的旅游动机量表。本研究首次在旅游动机量表设计中加入“网红热”视角，分别从外部吸引和内心诉求两个方面来编制量表。最后，本研究认为：第一，本研究的研究成果为

研究大学生的旅游动机提供了一个基础的测量工具，以解决目前尚没有针对大学生旅游动机的测量工具这一局面。本研究开发的量表有助于旅游企业对大学生旅游动机进行测量，并根据测量结果制定相应的措施和设计。第二，本研究还发现，大学生旅游的目的在于构筑社会关系和自我实现，乐于与当地人交流沟通。因此，相关政府部门可适当增加大学生旅游者的当地互动环节，提升高文化旅游者对旅游地的兴趣和随之而来的回头客效益。第三，研究表明大学本科生对于充实自我的旅游动机有明显的反应，说明相关旅游部门应该重视旅游地形象设计，从旅游感知角度更多的吸引游客。

### 五.3 研究局限与未来研究方向

本研究遵循严格的量表开发步骤，但仍然存在一定的局限：首先大学生旅游动机量表的开发与检验，主要采用方便抽样方法收集数据，样本可能缺乏代表性，普适性需要进一步确定。因此，为了提高研究结论的普适性，后续研究应对本研究编制的大学生旅游动机量表的普适性进行更深入的实证检验。第二，由于研究的阶段性，本研究只选择了当下社会热点“网红热”中的“短视频宣传”、“跟随网红或明星的足迹”、“在网红地打卡”等进行研究，所得到的数据因为与旅游动机相关性不强而删去，后续研究宜进一步扩大热点的种类以及涵盖内容。

## References

- [1] Crompton J L.Motivations for pleasure vacation[J].Annals of Tourism Research,1979,6(4):408-424.
- [2] 杨建明，余雅玲，游丽兰.福州国家森林公园的游客市场细分——基于游憩动机的因子-聚类分析[J].林业科学,2015,51(09):106-116.
- [3] 刘俊亿，吴淑祯，张康聪.华侨青年对台湾发展医疗观光的参与动机与意愿之研究[J].台湾观光学报,2010(第7期):17-38.
- [4] 李罕梁.国内游客的出游需求和行为影响机制[D].浙江大学,2015,202.
- [5] 陶玉霞.乡村旅游需求机制与诉求异化实证研究[J].旅游学刊,2015,30(07):37-48.
- [6] Maslow A H.A theory of human motivation[J].Psychological Review,1943,50(4):370-396.
- [7] Dann G M S.Anomie, ego-enhancement and tourism[J].Annals of Tourism Research,1977,4(4):184-194.
- [8] Iso-Ahola S E.Toward a social psychological theory of tourism motivation: A rejoinder[J].Annals of Tourism Research,1982,9(2):256-262.
- [9] Pi-Sunyer O.The Social Psychology of Tourist Behaviour[Z].American Sociological

Association,1983.728-729.

[10] Pearce P L, Lee U.Developing the Travel Career Approach to Tourist Motivation[J].Journal of Travel Research,2005,43(3):226-237.

[11] Yuan S, Mcdonald C.Motivational Determinates Of International Pleasure Time[J].Journal of Travel Research,1990,29(1):42-44.

[12] Prayag G, Hosany S.When Middle East meets West: Understanding the motives and perceptions of young tourists from United Arab Emirates[J].Tourism Management,2014,40:35-45.

[13] Pan T.Motivations of volunteer overseas and what have we learned: The experience of Taiwanese students[J].Tourism management,2012,33(6):1493-1501.

[14] Jang S S, Cai L A.Travel motivations and destination choice: A study of British outbound market[J].Journal of Travel & Tourism Marketing,2002,13(3):111-133.

[15] 王晓蓉, 彭丽芳, 李歆宇.社会化媒体中分享旅游体验的行为研究[J].管理评论,2017,29(02):97-105.

[16] 谢彦君, 孙佼佼, 卫银栋.论黑色旅游的愉悦性:一种体验视角下的死亡观照[J].旅游学刊,2015,30(03):86-94.

[17] 单浩杰.呼和浩特市居民乡村旅游需求的实证研究[J].干旱区资源与环境,2015,29(05):203-208.

[18] 谷晓萍, 李岩泉, 牛丽君, 等.本溪关门山国家森林公园游客行为特征[J].生态学报,2015,35(01):204-211.

[19] 程圩, 张霄玥, 隋丽娜.我国游客对境外“打工度假”的风险感知及旅游动机分析[J].陕西师范大学学报(哲学社会科学版),2019,48(05):90-97.

[20] 梁溶方, 曹佐明.基于网络文本分析的桂林旅游者行为研究[J].旅游纵览(下半月),2019(01):55-57.

# **Environmental knowledge and pro-environmental behavior of tourists in Swan Nature Reserve —— Taking affection and personal norm as mediating variables**

*Haoyue Yu, Qiurong Chen, Jingyu Zhang,  
Xinyi Zhang, Xiaoqiao Lan and Aijing Liu*

## **Abstract**

Environmental problems have made people pay attention to environmental knowledge. Pro-environmental behaviors and responsible environmental behaviors are important factors. This research proposes a prediction model for tourists' pro-environmental behavior, and analyzes the impact of environmental knowledge input on tourists' pro-environmental behavior. The results show that there is a positive correlation between environmental knowledge, awareness of consequences, ascription of responsibility and pro-environmental behavior, while environmental affection and personal norms act as intermediary variables.

**Keywords:** Environmental knowledge, Affection, Personal norms, Pro-environmental behavior

## **Introduction**

The ecological environment is the foundation of human survival and development. In this research field, many scholars have studied the environmental knowledge, environmental awareness, and environmental attitudes of different groups such as students, farmers, employees, and tourists and proposed that environmental knowledge plays a part of the mediating role between environmental attitudes and pro-environmental behaviors (Zhang Xiaojie, et al., 2016; Zhang Xiaojie, et al., 2017). Among them, the norm activation theory is widely used in the effective prediction of pro-environmental behavior and public environmental protection behavior. Although the norm activation theory has good explanatory power on the Awareness of Responsibility, Ascription of Responsibility, and the influence of Personal Norms on Pro-environmental Behavior, the relationship between the main variables is partly controversial. Therefore, based on the mediation model of norm activation theory, taking tourists from Rongcheng Whooper Swan National Nature Reserve as the research object, this paper incorporates two variables of Affection and Environmental Knowledge into it, and constructs a Pro-environmental Behavior model with Personal Norms and Affection as mediating variables.

## Literature Review

### Norm activation theory

Norm activation model (NAM) originated from previous scholars' research on the factors affecting helping behavior (Schwartz SH,1997). Schwartz believes that internal values and norms are the driving force of people's behavior, which form people's individual norms, and proposes the norm activation theory(NAM), including three variables: Awareness of Consequence (AC) , Ascription of Responsibility (AR) and Personal Norms (PN). Among them, the Awareness of Consequence refers to the individual's consciousness of causing undesirable consequences for others without performing altruistic behavior. In general, the stronger the individual's perception of the result of a particular situation, the stronger the sense of moral obligation, and the more likely the individual will activate Personal Norms to implement corresponding altruistic behaviors. Ascription of Responsibility refers to the individual's sense of responsibility for bad consequences. In general, the stronger the individual's sense of responsibility for the result, the more conducive to the implementation of behavior consistent with Personal Norms. Personal Norms refers to the self-expectations of individuals to implement specific behaviors under specific circumstances. Personal Norms is internalized social norms, a sense of moral obligation of oneself. The theory believes that Personal Norms directly affect behaviors positively and is activated through Awareness of Consequences and Attribution of Responsibility. Since its proposal for more than 40 years, this theory has been widely used to study pro-social behavior in developed countries, and a large number of studies have proved that the theory has good explanatory power and predictive power. At present, there are mainly two models of the relationship between the variables of the norm activation theory, one is the intermediary model which believes that the Awareness of Consequences affects the Ascription of Responsibility, and the Ascription of Responsibility affects Personal Norms, then Personal Norms in turn affects behavior (Figure 1) (De Groot &Steg, 2009); the other is the adjustment model which believes that Personal Norms is the direct influencing factor of behavior and is regulated by Awareness of Consequences and Ascription of Responsibility (Figure 2)(Schwartz SH,1977).

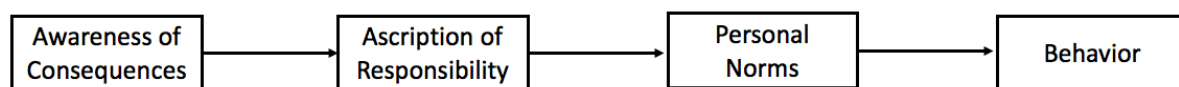


Figure 1 The Mediation Model of Norm Activation Theory

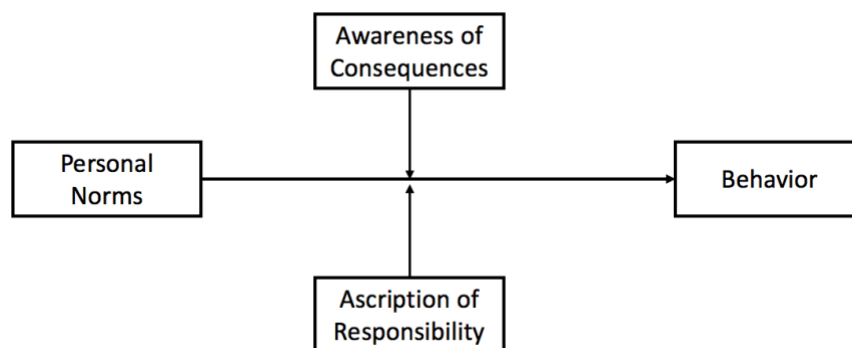


Figure 2 The Regulation model of Norm Activation Theory

The development of norm activation theory in the field of public environmental behavior research is Stern's value-belief-norm theory. Based on the intermediary model of norm activation theory, Stern combined Value theory and New Environmental Paradigm (NEP) to form a value-belief-norm theory (Figure 3). Value, New Environmental Paradigm (NEP), Consciousness of Results (AC), Attribution of Responsibility (AR), and Individual Norm (PN) form an inseparable causal chain. Each variable in the chain is related with next variables, and may be directly related to a variable further downstream in the chain (Stern, 2000).

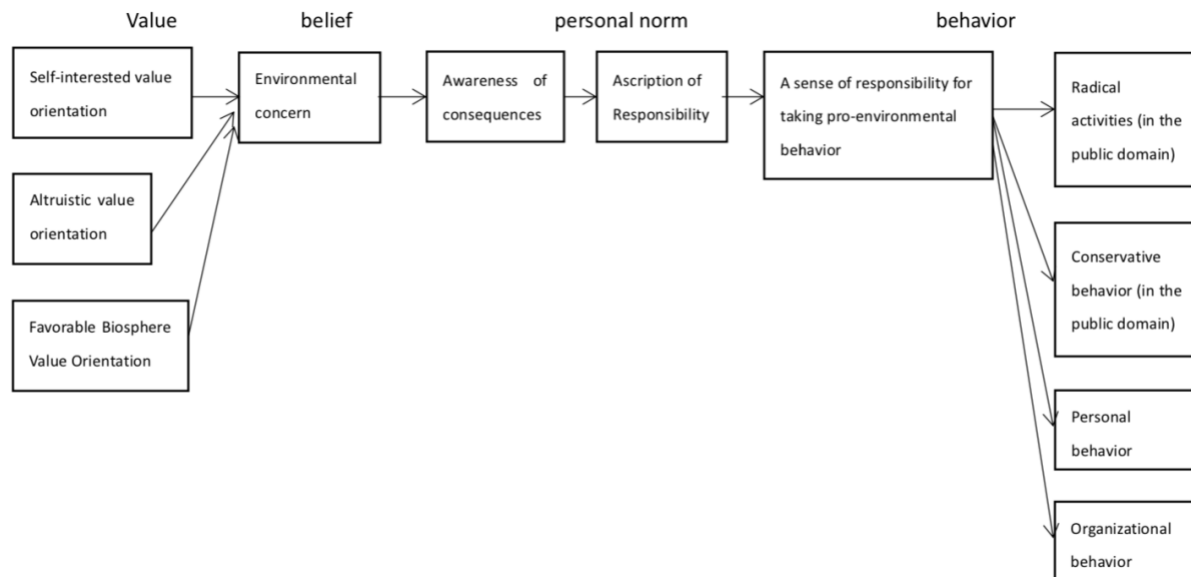


Figure 3 The Value-Belief-Norm Theory Model

Norm activation theory can be applied to a wide range of altruistic behavior research, and is an effective tool to explain and predict altruistic behavior. However, the relationship between the main variables of norm activation theory is still controversial.

## 2.2 Emotional factors in tourists' environmental behavior

Environmental Affection is an individual's attitude experience on environmental problems or whether environmental behaviors meet their own needs. For the research on emotional factors in environmental behavior, Koenig Lewis suggested that the emotional research in Pro-environmental Behaviors is almost centered on three areas: (1) Moralemotion; (2) Emotional affinity toward nature; (3) Ecological fear, and pointed out that moral emotions are people's emotions based on ecological norms or ecological responsibility, and their closeness to nature sense is a stable and lasting psychological state in which people tend to get close to nature, which can be understood as Ascription of Responsibility (Koenig Lewis, Palmer, Dermody & Urbye, 2014). An individual's ascription of responsibility of an event determines what kind of emotion he will have (Weiner, 1995), indicating that Ascription of Responsibility can directly affect emotions. Therefore, some scholars consider the respondents' Affections in Pro-environmental Behavior research. For example, anticipatory guilt (De Groot & Steg, 2009) is added to NAM's Personal



Norms, which hides the influence of emotions on behavior in the Personal Norms.

From the perspective of empirical research, scholars' conclusions on the relationship between environmental affection and environmental behavior are highly consistent, that is, there is a positive correlation between environmental emotion and environmental behavior (Chan and Lau, 2000). For example, the theory of reasoned action (TRA) believes that behavior intention is the result of attitude, and attitude includes cognitive and emotional factors. Cognition plays a guiding role in behavior, and emotion plays a stimulating role in behavior (Fishbein & Adzen, 1975). In the study of Pro-environmental Behavior, Song, Lee, Kang and Boo (2012) proposed the model of goal-directed behavior (MGB) and applied to emotion. The study of Pro-environmental Behavior explains how positive and negative emotions affect behavioral desires and transform them into behavioral intentions. Some scholars have simplified the MGB model. For example, when Chen (2013) studied the behavior of airplane passengers in participating in carbon emission reduction plans, only four variables: Attitude, Personal Norms, Positive Emotions and Negative Emotions were retained in the model (Figure 6).

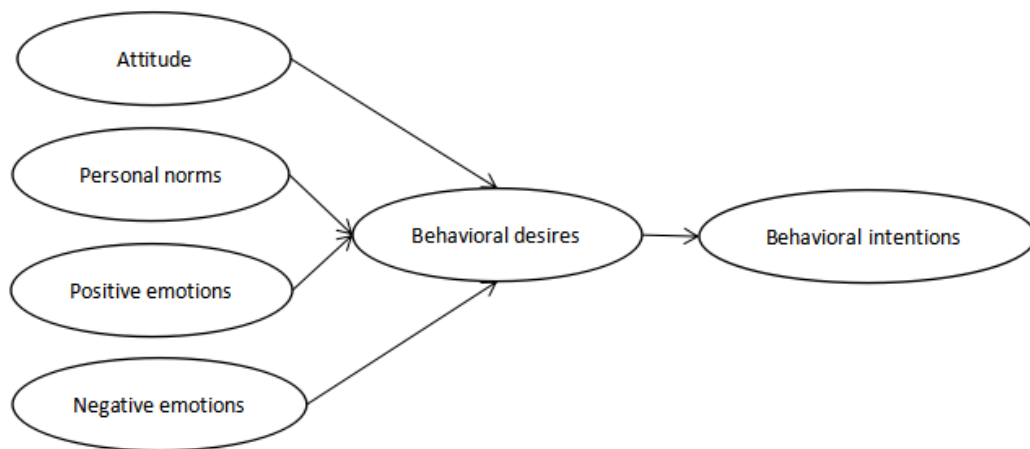


Figure 6 MGB Simplified Model

By sorting out the literature on the relationship between affective factors and Pro-environmental Behaviors, it can be found that most of the previous scholars support the correlation between affection and Pro-environmental Behaviors. However, there is no recognized theoretical model or factor of Affection and Pro-environmental Behavior in academic fields.

### 2.3 Environmental knowledge

Fryxell et al. (2003) defined environmental knowledge as general knowledge of a series of facts, concepts and interrelationships about the natural environment and major ecosystems. Scholars have discovered through research that there is a correlation between environmental knowledge and environmental attitudes (Lee K, 2011). Environmental knowledge can positively affect environmental attitudes and is the source of environmental attitudes and environmental behaviors (Kollmuss A, Agyeman J, 2002). People with more environmental knowledge have a stronger sense of environmental responsibility, pay more attention to environmental issues, and are more

likely to show environmentally friendly behavior(Huang P S, Shih L H., 2009), so the purpose of environmental management can be achieved through the management of environmental knowledge. Other scholars believe that environmental education can popularize environmental knowledge to the public. After the people have mastered basic environmental knowledge, they can gradually deepen their understanding of environmental issues and enhance environmental awareness and behavior (Lin Yueying, 1997). Hong Dayong (1998) proposed that environmental awareness consists of four parts: environmental knowledge, environmental values, environmental protection attitudes and environmental behaviors. Some scholars believe that environmental knowledge plays an important role in the environmental behavior of tourists. Tourism environmental knowledge and environmental awareness have a positive relationship (Xiaoting Yu, Xiaogen Wu, et al, 2015). When tourists receive environmental education, they intentionally or unconsciously act to protect the ecological environment and pro-environment (Li Wenming, Yin Chengqiang, et al., 2019). But others believe that environmental knowledge has no significant impact on environmental behavior, especially in rural areas, where the environmental behavior of villagers is not synchronized with environmental cognition (Sun,Yan 2006).

## Hypothesis and model construction

Norm activation theory reveals the influence of Ascription of Responsibility, Awareness of Consequences, and Personal Norms on Pro-environmental Behavior, but the relationship between the main variables needs further research. This paper proposes a new model of Personal Norms as an intermediary variable based on the intermediary model of norm activation theory (Figure 7).

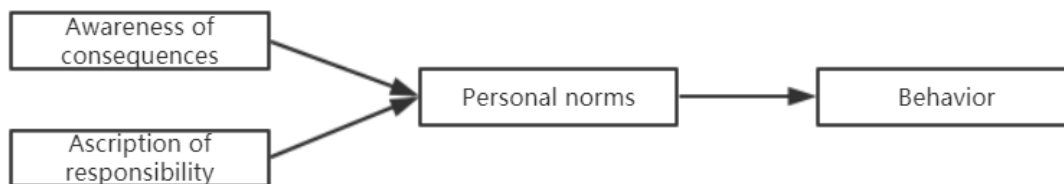


Figure 7 Conceptual Model Diagram of Norm Activation Theory with Personal Norms as an Intermediary Variable

Norm activation theory can be used as a strong foundation for the study of Pro-environmental Behavior, but it does not contain Environmental Knowledge and Affection into the research category. Considering the influence of Affection and Environmental Knowledge on Pro-environmental Behavior, this study adds the two variables: Affection and Environmental Knowledge to the above-mentioned hypothetical norm activation theoretical model , and forms a new model for Pro-environmental Behavior (Figure 8).

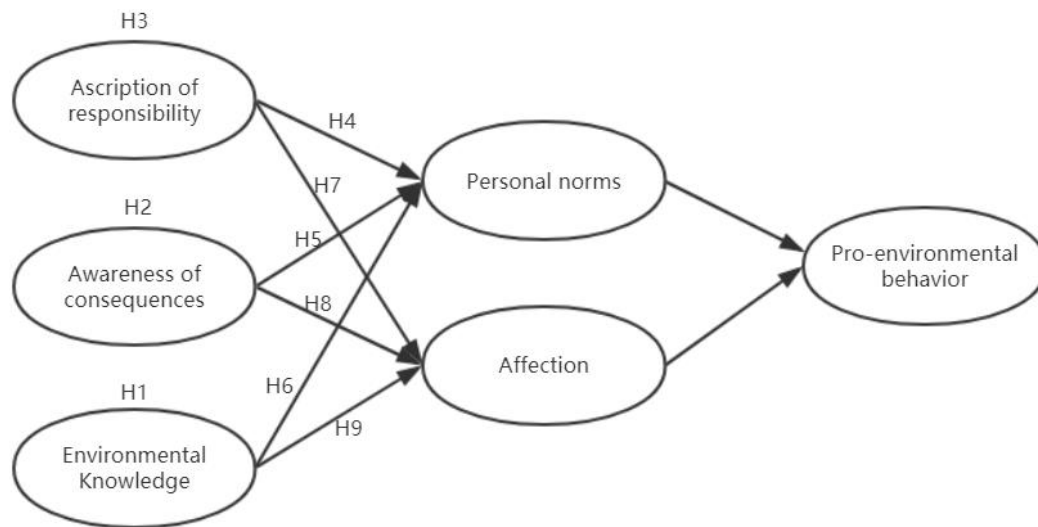


Figure 8 Pro-environmental Behavior Model with Personal Norms and Affection as Intermediary Variables

Therefore, the following hypotheses are proposed:

H1: Environmental Knowledge can positively affect Pro-environmental Behaviors.

H2: Awareness of Consequences can positively affect Pro-environmental Behavior.

H3: Ascription of Responsibility can positively affect Pro-environmental Behavior.

H4: Personal Norms is an intermediary variable between Ascription of Responsibility and environmental behavior.

H5: Personal Norms is an intermediary variable between Awareness of Consequences and Pro-environmental Behavior.

H6: Personal Norms is an intermediary variable between Environmental Knowledge and Pro-environmental Behavior.

H7: Affection is an intermediary variable between Ascription of Responsibility and Pro-environmental Behavior.

H8: Affection is an intermediary variable between Awareness of Consequences and Pro-environmental Behavior.

H9: Affection is an intermediary variable between Environmental Knowledge and Pro-environmental Behavior.

## Methodology

### 4.1 Overview of the case

This article selects Rongcheng Whooper Swan National Nature Reserve in Weihai City, Shandong Province as the research site. Nearly 10,000 whooper swans come here to overwinter every year. It is an important transfer station and wintering habitat for migration. The protected area is located in the transitional zone between land and sea, with significant ecosystem diversity and special protection and scientific research value. But from the perspective of tourism development, the local infrastructure and related policies are still relatively lacking, and the living environment of the swans need to be improved. This research is of great significance to the protection of whooper swan in this area.

### 4.2 Scale and questionnaire design

The scale used in this article is mainly based on the published literatures. Awareness of Consequences (AC) and Environmental Knowledge (EK) mainly refer to the article by Lee, K. (2010); Affection (A) and Pro-environmental Behavior (PEB) draws on the scales of Kim et al.(2018) and Li Wenming et al.(2019); Ascription of Responsibility (AR) and Personal Norms (PN) are mainly derived from the questionnaire design of Steg et al.(2005). According to the actual situation of the case and the purpose of the research, the specific topics were designed and adjusted to obtain the questionnaire of this study. All variables used the 7-point Likert scale ("1"=completely disagree, "4" =uncertain, "7"=strongly agree).

### 4.3 Pilot study and questionnaire adjustment

The trial questionnaires were distributed through the online questionnaire platform Sojump, and 16 valid questionnaires were collected. The questionnaire data was input into SPSS 24.0 software for validity and reliability analysis. Exploratory factor analysis method was used for validity test; Cronbach's  $\alpha$  coefficient was used to measure the reliability of the table. After appropriate adjustments questions of Awareness of Consequences, environmental knowledge and Pro-environmental Behavior, the results showed that the Cronbach's  $\alpha$  values of each variable were 0.817, 0.758, 0.790, 0.796, 0.857, 0.820, indicating that the revised scale have a higher reliability. The final questionnaire scale is shown in Table 1.

Table 1 Formal questionnaire scale (N=73)

Variable	Problem	Main references
Ascription of Responsibility (AR)	As a human being, I am partly responsible for global warming.	Steg, Dreijerink and Abrahamse, (2005)
	I should take responsibility for energy depletion.	
	As a traveler, I should also be responsible for the environmental issues of the destination.	
	Travelers have a certain degree of responsibility for protecting the environment.	

Awareness of Consequences (AC)	I realize that the environmental problems in the Whooper Swan Nature Reserve are getting worse.	Lee, K. (2010)
	I realize that the environmental problems in the Whooper Swan Nature Reserve need to be solved urgently.	
	I realize that the environmental problems in the Whooper Swan Nature Reserve are affecting the Whooper Swan.	
	I realize that the environmental problems of Whooper Swan Nature Reserve will affect the reputation of Swan Lake.	
Environmental Knowledge (EK)	I know what renewable energy is.	Lee, K. (2010)
	I can explain what is recyclable.	
	I often read to absorb knowledge about how to protect the environment.	
	I know recycling better than most people.	
	I understand the environmental protection terms and symbols on the product packaging.	
	I am very knowledgeable about environmental issues.	
Personal Norms (PN)	I know how to choose products and packaging to reduce the amount of waste generated in landfills.	Steg, Dreijerink and Abrahamse, (2005)
	I think it is personal responsibility to protect the environment of Big Swan Lake Nature Reserve as much as possible.	
	No matter what others do, I have a moral obligation to protect the environment in the Big Swan Lake Nature Reserve.	
	I feel guilty when I waste energy in the Whooper Swan Nature Reserve.	
	I feel guilty when I pollute the environment in the Whooper Swan Nature Reserve.	
Affection (A)	People like me should do all they can to protect the environment in the Whooper Swan Nature Reserve.	Kim, M., Kim, J. and Thapa, B. (2018)
	Thinking that most of the food eaten by whooper swan contains pesticides, I am very worried about them.	
	Thinking that the government has not done much to control the environmental pollution of Swan Lake, I feel very angry.	
	Thinking of the pollution that harmed vegetation and animals in the Swan Lake Reserve, I feel very angry.	
Pro-environmental Behavior (1)	When I think about the environmental pollution caused by tourism to Swan Lake, I feel frustrated and angry.	Kim, M., Kim, J. and Thapa, B. (2018)
	I consciously accept the policy of restricting access to the Whooper Swan Nature Reserve.	
Pro-environmental Behavior (2)	I consciously help maintain the environmental quality of the Whooper Swan Nature Reserve.	Kim, M., Kim, J. and Thapa, B. (2018)
	I consciously help maintain the environmental quality of the Whooper Swan Nature Reserve.	

PEB)	In case of environmental damage or pollution, I will report to the management department of the Whooper Swan Nature Reserve.	B (2018) ;  Wenming Li, et al. (2019)
	During this tour, I tried not to damage the flora and fauna in the Whooper Swan Nature Reserve.	
	I will take the initiative to pick up rubbish thrown by others in the Swan Lake Scenic Area.	
	I will tell my friends not to approach the birds without permission or make loud noises to frighten them.	
	I voluntarily join the voluntary service to protect the Swan Lake scenic spot, such as providing help to cleaning staff.	
	I will guide others to put garbage into bins or sort them into bins.	
	I am willing to serve as a propagator to spread the protection of Whooper Swan.	

#### 4.4 Formal investigation

Convenience sampling method was adopted in the survey implementation stage, and the samples were all undergraduates or postgraduates from Shandong University's Weihai campus. On November 23, 2019, students were organized to visit the Whooper Swan Reserve. After the traveling, paper questionnaires were distributed to respondents. A total of 81 questionnaires were distributed and 73 valid questionnaires were recovered. The effective recovery rate was 90.1 %. The male to female ratio is 3:7, and the proportions of freshman, sophomore, junior, senior, and graduate students are 35.6%, 31.5%, 26%, 1.4%, and 5.5% respectively.

#### 4.5 Analysis method

In the result analysis stage, we conducted a confirmatory analysis of the data, the mean, variance, skewness, kurtosis and other numerical analysis of central tendency and calculated dispersion degree through SPSS. The independent sample t-test results show that the gender difference is only significant in the Awareness of Consequences variable, and the 95% confidence interval for men is slightly higher than that for women. Regression analysis was used to measure the closeness of the relationship between variables, to observe significant changes and analyze the relevance of Ascription of Responsibility, Awareness of Consequences, and Environmental Knowledge to Pro-environmental Behaviors, and determine the mediating effect after adding Personal Norms and Affection variables to verify our hypothesis model.

## Results

### 5.1 Regression analysis

Using SPSS to analyze the correlation between variables, the results are shown in Table 2. There is a significant correlation between Ascription of Responsibility, Awareness of Consequences,

Environmental Knowledge, and Pro-environmental Behavior. The correlation coefficient can only indicate the closeness of the quantitative relationship between the variables. It cannot reflect whether there are linear relationships between the independent variables and the dependent variables. Therefore, use linear regression analysis to detect the correlation direction between the variables. The results show that there is a linear relationship between Ascription of Responsibility, Awareness of Consequences, Environmental Knowledge and Pro-environmental Behavior ( $B(AR)=0.430$ ,  $B(AC)=0.526$ ,  $B(EK)=0.523$ ,  $p<0.001$ ), and all positively affect Pro-environmental Behavior significantly. The H1, H2, and H3 hypotheses have been verified.

Table 2 The relationship between AR, AC, EK and PEB

	r	Sig.	B	t	Sig.
AR	0.396	0.000	0.430	3.636	0.001
AC	0.498	0.000	0.526	4.839	0.000
EK	0.435	0.000	0.523	4.066	0.000

## 5.2 Analysis of intermediary variables

At the 90% confidence level, firstly, the significance test of the relationships between AR, AC, EK and PEB were performed (Table 3). The significance levels were 0.001, 0.000, and 0.000, indicating that AR, AC, and EK have significant explanatory power for PEB, respectively.

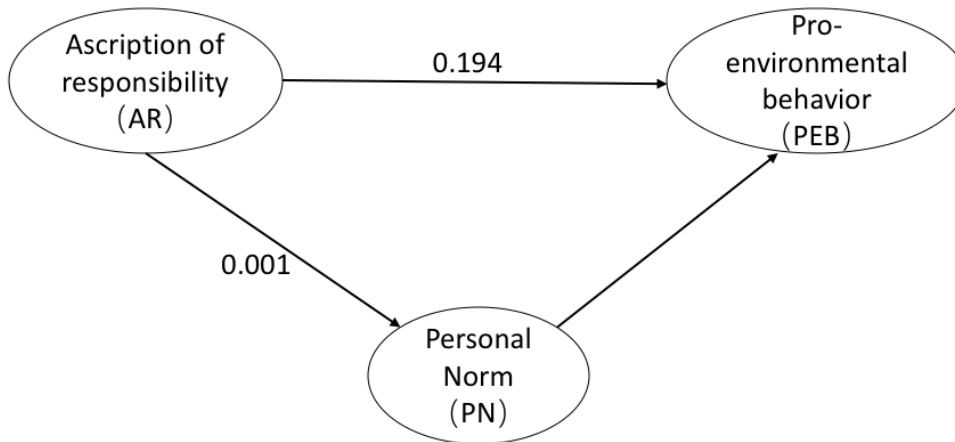
Table 3 Intermediary variable test

Hypothetical path	Sig.	Relationship with intermediary variables	Sig.	Intermediary intervention	Sig.
AR→PEB	0.001	AR→PN	0.000	AR→PN→PEB	0.194
		AR→A	0.058	AR→A→PEB	0.004
AC→PEB	0.000	AC→PN	0.000	AC→PN→PEB	0.005
		AC→A	0.000	AC→A→PEB	0.002
EK→PEB	0.000	EK→PN	0.019	EK→PN→PEB	0.002
		EK→A	0.055	EK→A→PEB	0.001

In order to test the mediating effect of Personal Norms, the significance test of the relationship between AR, AC, EK and PN were carried out, respectively, which were 0.000, 0.000, and 0.019, indicating that AR, AC, and EK all have significant explanatory power for PN. When AR and PN enter at the same time, the relationship between AR and PEB, which originally had a significant relationship, is no longer significant (Figure 9). Similarly, when AC and PN enter at the same time, there is a significant relationship, the significance of the relationship between AC and PEB decreases to 0.005; when EK and PN enter at the same time, the significance of the relationship between EK and PEB decreases to 0.002. Therefore, Personal Norms is a complete intermediate

variable between Ascription of Responsibility and Pro-environmental Behavior, and a partial intermediate variable between Awareness of Consequences and Pro-environmental Behavior, Environmental Knowledge and Pro-environmental Behavior. H4, H5, and H6 have been verified.

In order to test the mediating effect of Affection, the significance test of the relationship between AR, AC, EK and A were carried out, respectively, and the values were 0.058, 0.000, and 0.055, indicating that AR, EK, and AC have significant explanatory power for A; when A enters, the significance of the relationship between AR and PEB, which originally had a significant relationship, decreases to 0.004; the significance of the relationship between AC and PEB, which originally has a significant relationship, decreases to 0.002; the significance of the relationship between EK and PEB decreases to 0.001. Therefore, Affection is part of the intermediary variable between Ascription of Responsibility and Pro-environmental Behavior, Awareness of Consequences and Pro-environmental Behavior, Environmental Knowledge and Pro-environmental Behavior. H7, H8, and H9 have been verified.



Picture 9 Intermediary Intervention

## Discussion and Conclusion

### 6.1 Conclusion

This paper propose a new hypothetical model trying to predict tourists' po-environmental behavior through five factors: Ascription of Responsibility, Awareness of Consequences, Environmental Knowledge, Affection and Personal Norms. The hypotheses H1-H9 were verified by exploratory factor analysis, significance analysis and linear regression analysis through SPSS. That is, environmental knowledge, Awareness of Consequences, and Ascription of Responsibility can all positively affect the expression of tourists' Pro-environmental Behaviors. Among them, Affection and Personal Norms are intermediary variables that affect these relationships. The specific contributions and enlightenment are as follows:



### 6.1.1 Theoretical contribution:

#### 1. Make adjustments to the original norm activation theory intermediary model.

The new model adjusts the intermediary variables from the Awareness of Consequences of the original model to Personal Norms, that is, Ascription of Responsibility and Awareness of Consequences act on Personal Norms and then on Pro-environmental Behavior, and also adds the new variable of Environmental Knowledge. The data shows that Environmental Knowledge can act on environmental Affection and Personal Norms respectively to have a positive impact on Pro-environmental Behavior. The average environmental knowledge score of tourists is about 4.8, and the average Pro-environmental Behavior is 6.1. Although tourists show better Pro-environmental Behavior tendencies, in general, tourists with higher environmental knowledge scores will have a higher score for pro-environmental behavior .

#### 2. Find partial mediating variable and complete mediating variable

Personal Norms is a complete mediating variable between Ascription of Responsibility and Pro-environmental Behavior, and is a partial mediating variable between Awareness of Consequences, Environmental Knowledge and Pro-environmental Behavior. Affections is a partial mediating variables between Personal Norms, Awareness of Consequences Environmental Knowledge and Pro-environmental Behaviors. That is to say, between Personal Norms, Environmental Knowledge and Pro-environmental Behaviors, the two mediating variables in model do not have a completely mediating effect, and there may exist other mediating variables that have not been considered (Shrout and Bolger 2002). As for the Ascription of Responsibility and Pro-environmental Behavior of tourists, why is there still a environmental Affection as partial mediating variable when Personal Norms is already a complete mediating variable? The explanations are as follow.

Removing the Awareness of Consequences and Environmental Knowledge and split the model for analysis (Figure 11-12), it can be seen that after adding Personal Norms, the significance of Ascription of Responsibility on Pro-environmental Behavior changed from 0.001 to 0.194, which became no longer significant. After adding Affection variable, its significance changed from 0.001 to 0.004, and the significance decreased, but it is still significant. It can be explained by the two aspects:

① Since the mechanism that affects human behavior is complex, the dependent variable and the intermediary variables in our model may also interact with each others. If Personal Norms and Affection also affect each other, Ascription of Responsibility also has the possibility being partial mediating variable or complete mediating variable.

②The actual situation is much more complicated than the model. There cannot be only one intermediate variable between Ascription of Responsibility and Pro-environmental Behavior. From our experimental data, we can see that Affection can almost be ignored, compared with the effect of Personal Norms on Pro-environmental Behavior, Based on this idea, Personal Norms act as a complete mediating variable.

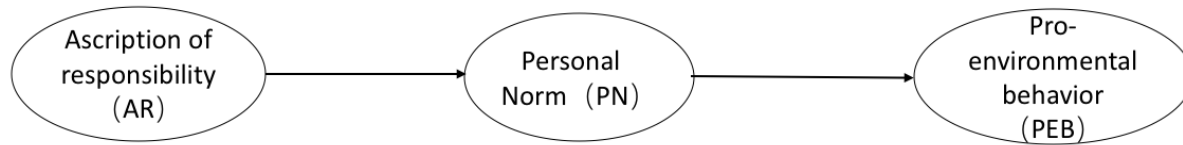


Figure 11 Personal Norms as an intermediary variable



Figure 12 Emotion as an intermediary variable

### 3. Affection and environmental behavior

Based on common sense, Affection is one of the intermediary variables of the model, and explains the Pro-environmental Behavior of tourists together with other factors. The results show that there is a significant positive relationship between environmental Affection and tourists' Pro-environmental Behaviors. However, Liu's (2015) study concluded that strong environmental Affection did not significantly lead to Pro-environmental Behaviors. In Liu's study, most of the respondents' concept of the environment does not contain humans and humans' activities. That is, most of the interviewees' perception of the environment is incomplete. Therefore, respondent's completeness of environmental perception may be one of the reasons for whether there is a significant relationship between Affection and Pro-environmental Behavior.

### 4. Environmental knowledge management and environmental education

In the early research on eco-tourism, scholars introduced environmental awareness and environmental education. The concepts of environmental awareness and environmental education contain but not only environmental knowledge. Suggestions on the effects of environmental education also include various indicators. Eliminating other factors in the concept, only considering environmental knowledge, and only using tourists' Pro-environmental Behavior as the effect test, this research design may be more in line with the experience of individual tourists.

#### 6.1.2 Practical contribution:

1. The results show that tourists' environmental knowledge has a significant positive relationship with their Pro-environmental Behaviors. Moving to the management of the scenic spot, inputting relevant environmental knowledge to the tourists can improve the environmental Affection and Personal Norms of the tourists, and then guide the tourists to make Pro-environmental Behaviors. Therefore, we suggest that the notice board with environmental knowledge should be placed where tourists can see, such as lakes, lawns, etc. More news reports and stories related to Whooper Swan

can be post on the exhibition boards to promote tourists' environmental behavior.

2. Tourists' environmental Affection and Pro-environmental Behaviors are also positively related. Therefore, it is suggested that the scenic spot establish a Weibo or WeChat official account to push the daily life of Whooper Swan and interact with tourists. Big swan-themed signs and buildings can also be set up inside the scenic area to create a swan-themed tourism atmosphere and enhance the sense of experience for tourists, thereby driving tourists' affection and promoting tourists' environmental behavior.

3. Based on the results of our data, the positive relationship between Ascription of Responsibility and Awareness of Consequences for Pro-environmental Behavior is also significant. Personal Norms is still a complete intermediary variable of Ascription of Responsibility and Pro-environmental Behavior. Education can enhance tourists' sense of environmental responsibility and is likely to have a significant effect in promoting Pro-environmental Behaviors. Scenic spots are suggested to take these two aspects into consideration when preparing tourist education.

## 6.2 Shortcomings and Outlook

### 6.2.1 Shortcomings

#### 1. The sample size is insufficient.

Due to time and conditions constraints, the research collected 73 valid questionnaires, all from students of different grades who participated in the Swan Lake one-day tour organized by Shandong University Tourism Association. Based on this small sample size, the results may have more bias.

#### 2. The data analysis method is relatively simple

This research only used SPSS to analyze the data through exploratory and confirmatory factor analysis and linear regression analysis, so the interpretation of the results may not be as strong as structural equation modeling or other methods.

### 6.2.2 Outlook

Further research should expand the sample size, and the composition of the sample should not be limited to youngster. In the research design, the controlled variable method should be introduced, and the sample should be divided into two groups with and without environmental knowledge input for comparative study.

## References

- Chan, R. Y. K. , & Lau, L. B. Y. . (2000). Antecedents of green purchases: a survey in china. *Journal of Consumer Marketing*, 17(4), 338-357.
- Chen, Y. S. . (2013). Towards green loyalty: driving from green perceived value, green satisfaction, and green trust. *Sustainable Development*, 21(5).
- De Groot , J.IM. , & Steg , L,. (2009). Morality and prosocial behavior: the role of awareness, responsibility, and norms in the norm activation model. *Journal of Social Psychology*.
- Fishbein M, Adzen I., (1975). Belief, Attitude, Intension and Behavior: An Introduction to Theory and Research [M]. *Mass: Addison Wesley*.
- Fryxell, G. E. , & Lo, C. W. H. . (2003). The influence of environmental knowledge and values on managerial behaviours on behalf of the environment: an empirical examination of managers in china. , 46(1), 45-69.
- Koenig Lewis , N., Palmer , A., Dermody , J.& Urbye , A.,(2014). “Consumers' Evaluations of Ecological Packaging – Rational and Emotional Approaches” , *Journal of Environmental Psychology* , Vol. 37, pp.94~105.
- Hong Dayong, (1998). A Preliminary Study of Chinese Public Environmental Awareness [M]. *Beijing: China Environmental Science Press*.
- Huang, P. S. , & Shih, L. H. . (2009). Effective environmental management through environmental knowledge management. *International Journal of Environmental Science & Technology*, 6(1), 35-50.
- Kim, Y. J., Njite, D., & Hancer, M., (2013). Anticipated emotion in consumers' intentions to select eco–friendly restaurants: Augmenting the theory of planned behavior. *International Journal of Hospitality Management*, 34, 255–262.
- Kollmuss, A. , & Agyeman, J. . (2002). Mind the gap: why do people act environmentally and what are the barriers to pro-environmental behavior?. *Environmental Education Research*, 8(3), 239-260.
- Lee, K. . (2010). The green purchase behavior of hong kong young consumers: the role of peer influence, local environmental involvement, and concrete environmental knowledge. *Journal of International Consumer Marketing*, 23(1), 21-44.
- Lin Yueying, (1997). Environmental awareness, environmental education and environmental protection in tourism[J]. *Journal of Beijing International Studies University*, 03: 22-26.
- Liu, S. C. , & Lin, H. S. . (2015). Exploring undergraduate students' mental models of the environment: are they related to environmental affect and behavior?. *Journal of Environmental Education*, 46(1), 23-40.
- Li Wenming, Yin Chengqiang, Tang Wenyue, Li Xiangming, Yang Dongxu, Zhang Yuling, (2019). Bird-watching tourists' local attachment and Pro-environmental Behaviors: Taking natural empathy and environmental education perception as mediating variables[J]. *Economic Geography*, 39(01):215-224.
- Schwartz, S. H. . (1977). Normative influences on altruism 1. *Advances in Experimental Social*

*Psychology*, 10, 221-279.

Shrout, Patrick E. and Niall Bolger, (2002). Mediation in Experimental and Nonexperimental Studies: New Procedures and Recommendation. *Psychological Methods*, 7 (4), 422–45.

Song, H. , Lee, C. K. , Kang, S. K. , & Boo, S. J. . (2012). The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior. *Tourism Management*, 33(6), 1417-1428.

Steg, L. , Dreijerink, L. , & Abrahamse, W. . (2005). Factors influencing the acceptability of energy policies: a test of vbn theory. *Journal of Environmental Psychology*, 25(4), 415-425.

Stern, Paul, & C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56 (3):407-424.

Sun Yan, (2006). Research on Residents' Environmental Behavior and Its Influencing Factors[D]. *Dalian University of Technology*.

Weiner , B., (1995). Judgments of responsibility. A found action theory of social conduct. *New York: The Guilford Press*.

Yu Xiaoting, Wu Xiaogen, Li Hangyuan, (2015). Research on the Environmental Awareness of Tourists in Taiwan Island of China and Its Influencing Factors[J]. *Journal of Beijing International Studies University*, 7(07): 78-85.

Zhang Xiaojie, Hu Xiayi, Wang Zhiqi, (2017). Value-Belief-Norm Theory: A New Framework for Public Environmental Behavior Research [J]. *Social Science Edition of Jinggangshan University*, 38(4):33-40.

Zhang Xiaojie, Jin Huirong, Lou Chengwu, (2016). Normative activation theory: an effective predictive model for public environmental behavior[J]. *Journal of Northeastern University: Social Science Edition*, 6(18):615.

# Measuring travelers' perceptions of green initiatives at hotels: an IPA analysis

*Ying-Ting Kua, Li-Ning Oh, Lok-Bin Ong,*

*Pei-En Wong, Kah-Yun Yip, and Bona Kim*

## Abstract

This study aims to examine Singapore travelers' preference levels for green initiatives across different categories of hotels using IPA analysis. Results have shown that there are no significant differences and the performance does not meet the expectations. This research contributes to the hospitality literature by providing a comprehensive list of green initiatives that are currently implemented in Singapore hotels, the preference levels of green initiatives according to different hotel categories, and the perceived importance and performance levels by hotel guests.

**Keywords:** Green Initiatives, Preference Level, Importance-Performance Analysis (IPA), Hotel Classification, Driving Adoption

## Introduction

Travelers now view environmental attributes of hotels as an integral part of its service offerings and seek hotel accommodation in line with their desire to be environmentally friendly and also do participate in green initiatives. (Robinot & Giannelloni, 2010). However, it is observed that there has been little change in the rate of participation over the five years of this survey (Bruns-Smith et al., 2015). The stagnant rate in participation suggests that there is a gap between what is currently offered and what travelers want from hotels in terms of green offerings (Bruns-Smith et al., 2015). Deloitte Survey (2008) further supported this observation through their findings that there is often a discrepancy between what travelers expect of hotels and the green practices that hotels ultimately undertake. This discrepancy between expectations of travelers and what hotels delivered can be supported by the gap model of service quality which suggests that a knowledge gap exists, caused by the difference between consumer's expectation and management perception towards consumer's expectation (Parasuraman, Zeithaml, & Berry, 1985).

Hotels have usually implemented a range of green practices despite a lack of understanding of guests' preferences for green attributes (Millar & Baloglu, 2011). However, a lack of studies on the expectations of travelers on green initiatives that they like or dislike has been discovered. Therefore, to increase participation in green initiatives, there is a need for hotels to first understand their travelers' preference of the different green initiatives. Wu, Teng, and Huang (2013) highlighted that while hotels know the importance and benefits of implementing green initiatives, it is crucial for hotels to know the performance of initiatives. Therefore, to close the gap between travelers' expectations of green practices and what hotels are currently undertaking, there is a need first to measure the performance of green initiatives in hotels and subsequently improve initiatives that fall below guest satisfaction.

Importance-Performance Analysis (IPA) is adopted in this study to identify green initiatives that

need to be improved first based on guest evaluation of the importance of a green initiative and performance of that initiative implemented by hotels. In addition, there is a difference in preference level for green initiatives for different categories of hotels as higher categories of hotels tend to be more expensive than those in the lower categories due to differences in service and product offerings (Hotel Analyst, 2019). However, limited research has been examined on travelers' preference for green initiatives across different hotel categories (Millar & Baloglu, 2011; Millar, Mayer, & Baloglu, 2012). Based on the research gaps, the following research questions, therefore, are identified to investigate in this quantitative study:

1. What are travelers' levels of preference for different green initiatives?
2. How can hotels improve the performance of green initiatives through the use of Importance-Performance Analysis?
3. Do differences in the preference levels of green initiatives exist according to different hotel categories?

## **Literature Review**

### **Green Initiatives in the Hotel Industry**

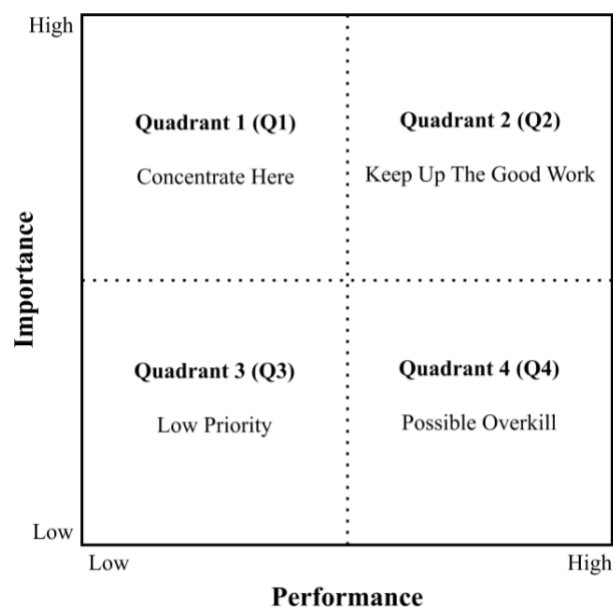
Many studies have highlighted that it is crucial for the hotel industry to address the environmental impact due to its reliance on the natural environment to attract guests and ensure sustainability (Boley & Uysal, 2013; Hsieh, 2012; Shanti, 2016). Additionally, implementing green initiatives have been known to be beneficial for hotels. These include benefits such as competitive advantage, cost-saving, elevated branding, higher customer, and employee's satisfaction (Kim, Hlee, & Joun, 2016; Kirk, 1995). Although such green initiatives have been implemented for a time period, the improvement of the hotel's impact on the environment was still insignificant (Bruns-Smith et al., 2015). Research has shown that the hotel industry is still lagging in terms of the commitment to sustainability as compared to other industries (Hsieh, 2012). Shanti (2016) states that most hotels do not have a long-term environmental strategy and various initiatives were implemented in an ad-hoc manner. Therefore, it is crucial for hotels to redesign existing green initiatives to increase guest participation through understanding the preference of travelers and implement strategies which will improve the hotel's sustainability in the long run.

### **IPA analysis**

IPA has been applied to studies on sustainability analysis to identify areas for improvements and guide strategic planning efforts for the hospitality industry (Cvelbar & Dwyer, 2012). Martilla and James (1997) developed IPA to measure service quality and make improvements to design effective marketing strategies. IPA demonstrated that customer satisfaction is a function of both expectations related to certain important attributes and judgements of attribute performance (Martilla & James, 1997). The underlying concept in IPA is the relationship between importance attribute and attribute performance towards guest satisfaction is linear (Wu, Teng, & Huang, 2013). Therefore, IPA aims to close the gap between guest expectation on the importance and judgement on the performance of green initiative attributes they have experienced by identifying attributes that contribute to low guest satisfaction.

The IPA framework is a matrix that measures two dimensions, importance and performance of each attribute (see Figure 1). The vertical axis measures the mean importance value of attributes and the horizontal axis measures the mean performance value of attributes. By using a central tendency, attributes are classified into the four quadrants of the IPA matrix with different managerial implications (Martilla & James, 1977). By referencing the IPA framework, this research uses a guest's self-stated importance and overall satisfaction towards green initiative attributes to measure “importance” and “performance” dimensions. Self-stated importance evaluates customer-perceived importance of green initiative attributes based on personal values and desires while actual guest satisfaction is a measurement of the performance of green initiative attributes as shown in a study by Chen (2014). Using the IPA, the research team can determine travelers’ level of preference for different green initiatives and identify green initiatives that are most in need of improvements.

**Figure 1.** Structure of IPA Matrix



\* Note: Adopted from ‘Importance-Performance Analysis’ by **Martilla and James (1977)**

### Classification of Hotels

Following STR’s collapsed hotel class segments, there are three tiers: Economy, which includes midscale and economy hotels; Mid-priced, which includes upscale and upper-midscale hotels; and Luxury, includes luxury and upper-upscale hotels. Hotels are categorized based on its Average Daily Rate (ADR), where hotels in the upper segments usually have higher ADR due to its variety of amenities and service offerings (Hotel Analyst, 2019). Bruns-Smith et al. (2015) proved that there were differences in travelers’ participation in green initiatives across different categories of hotels. It was observed that there is a greater level of guest participation in green initiatives for luxury and upscale segments. Another study by Gerdt, Wagner, and Schewe (2019) found that travelers staying in higher categories of hotels tend to be more critical and less satisfied towards green initiatives compared to those staying in mid to low categories of hotels. It suggested that



travelers staying in more luxurious hotels view green initiatives that directly affect their comfort less favorably and place more importance on self-interest goals due to the higher price they paid for the luxurious hotel and were likely to have high expectations for the hotel stay.

Therefore, outcomes of the studies imply that differences exist in travelers' willingness to participate in green initiatives when staying in different categories of hotel due to their self-interest or self-esteem goals. Although there are numerous studies on guest's perception towards hotel green attributes, the research on travelers' preference level and participation in green initiatives across different categories of hotels are limited (Millar & Baloglu, 2011; Millar, Mayer, & Baloglu, 2012).

Based on this literature review, the following hypothesis was proposed:

H<sub>1</sub>: Guests staying in different categories of hotels will have different preference levels for green initiatives.

## Methodology

A pre-test was conducted through 38 in-depth interviews with hotel managers and hotel users. A list of 19 green initiatives was identified to be used for this quantitative study. Using the attributes, a questionnaire was designed to ask details of their most recent trip, individuals' preference levels, importance and satisfaction levels across three hotel categories. The sampling frame consisted of Singaporeans and Singapore Permanent Residents who have stayed in local or overseas hotels in the previous 24 months. An online survey platform, Qualtrics, was used to design a questionnaire and the questionnaire was disseminated to the general public through verbal communication and social media platforms such as WhatsApp and Instagram. All respondents were requested to complete the questionnaire within the week in June 2020. A total of 466 responses were recorded. However, upon screening of the responses, 40 responses were excluded as it did not meet the research criteria. Dataset was analyzed according to IPA framework and mean values of importance and performance levels of green initiatives were computed. Data was analyzed using the IPA framework and in addition, the hypothesis of this study was tested using the software through using Analysis of Variance (ANOVA).

## Results

### Traveler's Level of Preference for Different Green Initiatives and IPA Results

Table 1 summarizes the means of preference levels, performance values, importance values, mean gap, and the managerial implication of each green initiative attribute. Figure 2 shows the plot of the IPA analysis. Each green initiative was categorized into different quadrants of the IPA matrix. Green initiatives that were categorized in Q1 of 'Concentrate here', imply high importance and low performance hence, there is a high priority to improve them. In Q2, those of 'Keep up with the good work' are green initiative with high importance and performance levels which means they

should be improved next to increase guest satisfaction. Green initiatives that fell into Q3 of ‘Low priority’ should be the last to improve as they have lower priority levels with low mean importance value. Lastly, green initiatives that were categorized in Q4 of ‘Possible overkill’ imply low importance and high performance. This suggests that guests are relatively satisfied with the performance of these initiatives but were viewed as unimportant by guests hence, hotels may reduce resources allocated for these initiatives.

Based on the analysis, all green initiative attributes have negative mean gap values, and eight of these attributes show significant negative gap exceeding value of one. Three green initiative attributes with significant negative gap values are plotted in Q1, six initiatives fall into Q2, six fall into Q3 and the last four initiatives fall into Q4.

**Table 1.** Preference, Performance and Importance Values

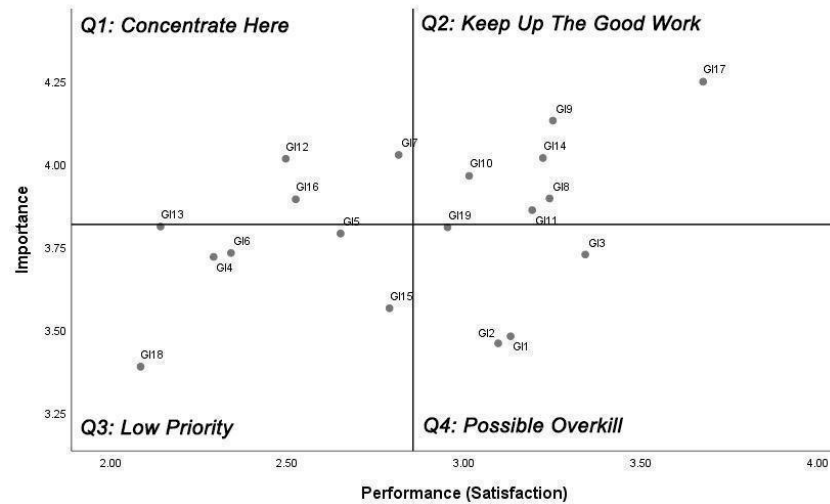
Attribute Number	Attribute Description	Mean Preference Level	Mean Performance Value	Mean Importance Value	Mean Gap (Performance - Importance)	Strategy	Priority
GI1	Towel Reuse Program	3.48	3.13	3.48	-0.35	P	19
GI2	Linen Reuse Program	3.46	3.10	3.46	-0.36	P	18
GI3	Soap Dispensers Instead of Bottled Amenities	3.73	3.34	3.73	-0.38	P	17
GI4	Recycling Bins in Guest Rooms	3.72	2.29	3.72	-1.43	L	11
GI5	Replacing Plastic Bottled Water with Alternative Packaging	3.79	2.65	3.79	-1.14	L	14
GI6	Removing Plastic Bottled Water and Providing Alternative Water Sources	3.73	2.34	3.73	-1.39	L	12
GI7	Replacing Plastic Straws with Biodegradable Material	4.03	2.81	4.03	-1.21	C	3
GI8	Removing Plastic Straws	3.89	3.24	3.89	-0.65	K	8
GI9	Providing Digital Menu Instead of Paper Menu	4.13	3.25	4.13	-0.88	K	5
GI10	Replacing Plastic Bags with Paper Bags	3.96	3.01	3.96	-0.95	K	4
GI11	Occupancy Sensor	3.86	3.19	3.86	-0.67	K	7
GI12	Water Recycling System	4.01	2.50	4.01	-1.52	C	1
GI13	Sustainable Farming	3.81	2.14	3.81	-1.67	L	10
GI14	Biodegradable Amenities	4.02	3.22	4.02	-0.79	K	6
GI15	Educational Posters and Collaterals for Green Initiatives	3.56	2.79	3.56	-0.77	L	15
GI16	Custom Water Filters to Optimize Water Flow	3.89	2.52	3.89	-1.37	C	2

and Pressure

GI17	Energy Efficient Appliances	4.25	3.68	4.25	-0.57	K	9
GI18	Organizing Sustainability-Themed Events	3.39	2.08	3.39	-1.30	L	13
GI19	Single-Use Amenities Provided Upon Request Only	3.81	2.95	3.81	-0.85	P	16

\*Note: C: Concentrate Here; K: Keep Up The Good Work; L: Low Priority; P: Possible Overkill

**Figure 2.** IPA Plot of Green Initiatives



### Preference Level of Green Initiatives Across Different Categories of Hotels

To determine if there is a difference in preference level of green initiatives across different categories of hotels, a one-way ANOVA was used to test the hypothesis. As ANOVA tests were conducted, one test for each green initiative was identified. As a result, nine are significant ( $p < .05$ ) and returned an F-value of more than 3.00 and these support the proposed hypothesis of this study (see Table 2). As there were tests that returned statistically significant differences, a Tukey post hoc test was conducted for those tests and the results are displayed in Table 3. From the Tukey post hoc test, it is determined that the difference in preference levels generally lies between travelers staying in Mid-priced hotels and Luxury hotels.

**Table 2.** Results of ANOVA Test

Item	Economy (N = 120)	Mid-priced (N = 180)	Luxury (N = 126)	F-Value	P-Value
Towel Reuse Program	3.39	3.54	3.48	0.539	0.584
Linen Reuse Program	3.41	3.50	3.44	0.223	0.800
Soap Dispensers Instead of Bottled Amenities	3.77	3.77	3.62	0.648	0.524

Recycling Bins in Guest Rooms	3.65	3.73	3.76	0.279	0.757
Replacing Plastic Bottled Water with Alternative Packaging	3.71	3.93	3.66	2.123	0.121
Removing Plastic Bottled Water and Providing Alternative Water Sources	3.73	3.84	3.57	1.557	0.212
Replacing Plastic Straws with Biodegradable Material	3.87	4.29	3.80	8.474	0.000***
Removing Plastic Straws	3.82	4.05	3.75	2.796	0.062
Providing Digital Menu Instead of Paper Menu	4.00	4.33	3.96	5.644	0.004**
Replacing Plastic Bags with Paper Bags	3.98	4.10	3.75	3.266	0.039*
Occupancy Sensor	3.78	4.06	3.65	4.438	0.012**
Water Recycling System	3.90	4.18	3.89	3.253	0.040*
Sustainable Farming	3.68	3.94	3.75	2.243	0.107
Biodegradable Amenities	3.93	4.14	3.92	2.071	0.127
Educational Poster and Collateral for Green initiatives	3.41	3.77	3.42	4.456	0.012**
Custom Water Filters to Optimize Water Flow and Pressure	3.78	4.07	3.75	3.823	0.023*
Energy Efficient Appliances	4.18	4.42	4.06	5.126	0.006**
Organizing Sustainability-Themed Events	3.36	3.54	3.19	3.207	0.041*
Single-Use Amenities Provided Upon Request Only	3.88	3.90	3.60	2.561	0.078

\* Note: Statistical significant is at  $p < 0.05$ ,  $F\text{-value} > 3.00$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

**Table 3.** Tukey Post Hoc Test Results

Item	P-Value					
	Between Economy priced	and Mid-	Between Economy Luxury	and	Between Mid-priced and	Luxury
Replacing Plastic Straws with Biodegradable Material	0.005**		0.895		0.001***	
Providing Digital Menu Instead of Paper Menu	0.024*		0.955		0.009**	
Replacing Plastic Bags with Paper Bags	0.635		0.299		0.030*	
Occupancy Sensor	0.140		0.669		0.012**	

Water Recycling System	0.095	0.997	0.073
Educational Poster and Collateral for Green initiatives	0.032*	0.996	0.036*
Custom Water Filters to Optimize Water Flow and Pressure	0.070	0.988	0.043*
Energy Efficient Appliances	0.094	0.661	0.006**
Organizing Sustainability-Themed Events	0.394	0.524	0.033*

\* Note: Statistical significant is at  $p < 0.05$ ,  $F\text{-value} > 3.00$ . \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$

## Discussion and Conclusion

The first research objective is to identify travelers' preference for different green initiatives. Results show that Singapore residents generally prefer green initiatives from the 'green building', 'removal of plastics' and 'technology' categories which includes green initiatives such as 'energy efficient appliances'. Based on these initiatives, it is also found that Singaporeans prefer green initiatives that involve the least effort and is the most convenient. Hence, hotels should focus on improving their existing green initiatives by ensuring that green initiatives participation involves low effort and are convenient to participate in.

The second research objective is to use the IPA to improve the performance of green initiatives. The IPA results indicate that the performance levels of all green initiative attributes fall under the guests' perceived importance. Thus, all 19 green initiatives must be improved. For future implementation of green initiatives, hotels can use the IPA quadrants as reference for better allocation of resources and develop effective marketing strategies to promote them.

Lastly, based on the literature review, there are differences on preference levels across different hotel categories, and guest participation of green initiatives is higher in the luxury and upscale categories (Bruns-Smith et al., 2015). However, the proposed hypothesis is not supported. This indicates that Singapore residents' preference level of green initiatives do not vary according to the category of hotel they stay in which could be due to the differences in culture among samples in different studies. From the Tukey post hoc test, it is determined that guests staying at economy hotels generally do not have different preference levels of green initiatives compared to guests staying at mid-priced or luxury hotels. Meanwhile, the results imply that there is a difference in preference levels of green initiatives among guests staying at mid-priced and luxury hotels. Therefore, it is proved that hotels do not have to focus on implementing different green initiatives to target different groups of travelers. However, hotels in the mid-priced and luxury categories should take travelers' preference into consideration. Hotels can also tap onto the trend of sustainable hotels promoted by the government (Ministry of Environment & Water Resource, 2017), and focus more on the green initiatives mentioned above.

From the results, four strategies are suggested for hotels to use as a reference to improve the existing green initiatives. Firstly, hotels can ensure that their existing green initiatives are placed at strategic locations that can be easily seen and reached by travelers while not bringing any inconvenience to the travelers and cause any discomfort during their stay. Secondly, hotels can understand their target market and identify the ideal communication channels to reach out to their target audience. For instance, for tech-savvy travelers hotels can promote their green initiatives through social media platforms while for non-tech-savvy travelers hotels can promote through traditional media such as hotel newsletters or collaterals. Thirdly, hotels can educate guests by highlighting the impacts of individual green initiatives through the use of descriptive norms and statistical figures which have been shown to have a stronger impact and spur guest participation (Elgaaied-Gambier et al., 2018). Lastly, based on the preference of the travelers, hotels can focus on replacing resources with alternative sustainability options. For instance, hotels can replace the existing room amenities with sustainable materials such as replacing plastic bottles with paper carton packaging as mentioned by hotel manager and hotel users. Hotels can also incorporate technology into the green initiatives such as going digital for menu, and event signages. This can minimize wastage of resources and reduce the inconvenience of participation.

The empirical results of this research will allow the academia to have a better understanding of the preference of green initiatives of Singaporeans. This research will also contribute to the hospitality literature by providing an updated list of green initiatives that are currently implemented in Singapore hotels, and their perceived importance and performance levels by guests.

## References

- Boley, B., & Uysal, M. (2013). Competitive synergy through practicing triple bottom line sustainability: Evidence from three hospitality case studies. *Tourism and Hospitality Research*, 13(4), 226-238.
- Bruns-Smith, A., Choy, V., Chong, H., & Verma, R. (2015). Environmental Sustainability in the Hospitality Industry: Best Practices , Guest Participation , and Customer Satisfaction  
Environmental Sustainability in the Hospitality Industry : Best Practices. *Cornell University School of Hotel Administration*, 15, 6-16.
- Chen, K. (2014). Improving importance-performance analysis: The role of the zone of tolerance and competitor performance. The case of Taiwan's hot spring hotels. *Tourism Management*, 40(C), 260–272.
- Cvelbar, L. K., & Dwyer, L. (2012). An importance-performance analysis of sustainability factors for long-term strategy planning in Slovenian hotels. *Journal of Sustainable Tourism*, 21(3), 487–504. <https://doi.org/10.1080/09669582.2012.713965>
- Deloitte. (2008). *The staying power of sustainability*. Deloitte. [https://www.expoknews.com/wp-content/uploads/2010/02/us\\_cb\\_sustainability\\_1906081.pdf](https://www.expoknews.com/wp-content/uploads/2010/02/us_cb_sustainability_1906081.pdf)

- Elgaaied-Gambier, L., Monnot, E., & Reniou, F. (2018). Using descriptive norm appeals effectively to promote. *Journal of Business Research, Elsevier*, 82, 179-191. <https://doi.org/10.1016/j.jbusres.2017.09.032>
- Gerdt, S.-O., Wagner, E., & Schewe, G. (2019). The relationship between sustainability and customer satisfaction in hospitality: An explorative investigation using eWOM as a data source. *Tourism Management*, 74, 155-172. <https://doi.org/10.1016/j.tourman.2019.02.010>
- Hotel Analyst. (2019, January). *The Hotel Brand Report 2019*. Hotel Analyst. <https://hotelanalyst.co.uk/wp-content/uploads/sites/2/2018/12/Brands-Report-2019-sample.pdf>
- Hsieh, Y. (2012). Hotel companies' environmental policies and practices: A content analysis of their web pages. *International Journal of Contemporary Hospitality Management*, 24(1), 97-121.
- Kim, J.-Y., Hlee, S., & Joun, Y. (2016). Green practices of the hotel industry: Analysis through the windows of smart tourism systems. *International Journal of Information Management*, 36(6), 1340-1349.
- Kirk, D. (1995). Environmental management in hotels. *International Journal of Contemporary Hospitality Management*, 7(6), 3-8. <https://doi.org/10.1108/09596119510095325>
- Martilla, J. A., & James, J. C. (1977). Importance-Performance Analysis. *Journal of Marketing*, 14(1), 77-79.
- Millar, M., & Baloglu, S. (2011). Hotel Guests' Preferences for Green Guest Room Attributes. *Cornell Hospitality Quarterly*, 52(3), 302-311.
- Millar, M., Mayer, K. J., & Baloglu, S. (2012). Importance of Green Hotel Attributes to Business and Leisure Travelers. *Journal of Hospitality Marketing and Management*, 21(4), 395-413.
- Ministry of Environment & Water Resource. (2017, August 25). *News*. Ministry of Environment & Water Resource. <https://www.mewr.gov.sg/news/opening-address-by-dr-amy-khor--senior-minister-of-state--ministry-of-the-environment-and-water-resources-and-ministry-of-health-at-the-singapore-green-hotel-award-presentation-ceremony-2017-on-25-august-2017--235pm-at-ramada->
- Parasuraman, P., Zeithaml, V. A., & Berry, L. L. (1985). A Conceptual Model of Service Quality and Its Implication for Future Research (SERVQUAL). *Journal of Marketing*, 41-50. <https://doi.org/10.2307/1251430>
- Robinot, E., & Giannelloni, J. L. (2010). Do hotels' "green" attributes contribute to customer satisfaction? *Journal of Services Marketing*, 24(2), 157-169. <https://doi.org/10.1108/08876041011031127>
- Shanti, J. (2016). A study on environmental sustainability practices of star hotels in Bangalore. *Asian Journal of Business Ethics*, 185-194.

Wu, K. S., Teng, Y. M., & Huang, D. M. (2013). Are lodging really go green? Empirical investigation of the sustainability practice from the hoteliers by IPA analysis. *Life Science Journal*, 10(4), 1097–8135.



# Exploring the spatial-temporal structure of tourism market —— A case study of Sanya

*Xuehan Wu, Yi Liu, Yuanyi Chen*

## Abstract

Existing research about analyzing user generated data on social media is insufficient. Therefore, with the help of text data emotion mining technology and sentiment-analysis method, this paper takes Sanya as a case study to reveal the temporal and spatial characteristics and changing laws of the tourism market structure from reputation and attention. It finds that Sanya has a mature structure in China which is mainly affected by socioeconomic factors rather than distance and weather.

**Keywords:** UGC, TSE, tourism market structure, temporal and spatial characteristics

## Introduction

In the Web2.0 environment, online text, pictures, videos and other content published in any form on the network are called User-Generated Content (UGC, the same below), which is a new form of creation and organization of network information resources (Zhao et al., 2012). Information about travel reviews, travel logs, strategies, sharing posts and other information posted by users on travel online websites and various social media has the characteristics of huge amount of information, rich content, high timeliness and full time, as well as values of network information searching, influencing tourism decision-making behavior (Zhang, 2013). Among them, the content of reviews about various attractions that tourists voluntarily and actively published on the travel online platform has advantages such as larger sample size and more structured than travel notes (for example, for specific tourist attractions, including the release time, ID attribution and other attributes).

The emergence of new UGC data provides new research opportunities for exploring the evolution of the tourism market structure. The data formed by tourists posting reviews on the Internet involves geographic location information, which can reflect the emotional evaluation of tourism destinations and influence the decision-making behavior of other tourists , so it is a type of data suitable for conducting innovative research, and it has become a key research object of scholars and tourism practitioners. With the help of this kind of data, it is possible to comprehensively and in-depth study the basic characteristics of the market structure of the tourist source reflected by the tourist groups, especially the law of temporal and spatial changes, so as to better understand the behavior and preferences of tourists, which are beyond the reach of questionnaire surveys and interviews. Therefore, this paper uses Internet text data mining technology to quantitatively score tourists' emotions based on online reviews, and uses the existing TSE (Tourist Sentiment Evaluation) method to explore the temporal and spatial characteristics in the tourism market structure of Sanya as a case study, which provides new perspectives and research support for tourism marketing and management from the perspective of geography.

## **Literature Review**

The research on the time-space structure of the tourism market structure originally originated in the time dimension and then expanded to the space dimension (Baron, 1975; Cooper, 1981). At present, the domestic and foreign tourism academic circles' research results on the temporal and spatial distribution of tourism markets are mostly based on the relevant knowledge of tourism geography, industrial economics and other disciplines. Quantitative research methods are used for analysis from large spatial scales such as provinces or countries.

With the development of network information technology and the maturity of search engines and online travel websites, scholars have gradually turned to the use of updated and timely network data with a large base to analyze the temporal and spatial distribution characteristics of the tourism market structure from both network attention and passenger flow.

At present, the main data sources for tourism destination evaluation research based on UGC data include scenic spot review texts, travel notes, and photos of major online travel websites; text data in social media; image data from social photo sites, etc., using a variety of methods to conduct research on the perception, attention, evaluation or tourist behavior of tourism destinations. The current tourism evaluation research based on UGC data only does the mining of emotional tendencies, and initially compares the management problems of different types of destination image perception, but has not yet conducted data mining from the perspective of regional temporal and spatial characteristics. In the research on the time and space structure of tourist source areas, traditional researches are mostly based on conventional statistical data and survey data such as the questionnaire survey, the former is highly restricted by statistical caliber and insufficient timeliness, while the latter has problems such as small sample size and insufficient representation. Although the data sources of recent research have gradually shifted from questionnaires and statistical data to network data, which has expanded the scope of research and provided practical reference value for the marketing of tourism destinations, there are still certain shortcomings. Furthermore, under the background of "space-time compression" with advanced information technology and improved traffic conditions, whether the traditional factors affecting tourists' choice of tourism destinations have changed has not been fully explored. Therefore, it is a very meaningful exploration to use travel review UGC data to mine the time and space information of the tourism market structure.

## **Methodology**

This paper uses two indicators to measure temporal and spatial characteristics in the tourism market structure: (1) Attention and (2) Reputation. Attention refers to the number of reviews made by tourists online; and reputation refers to the ratio of positive reviews obtained through sentiment analysis method, which is used to represent the degree of favorable reviews of tourists to the destination.

The data used in this paper mainly comes from tourist reviews on online travel websites. Five online travel websites including Baidu Travel, Qunar Ctrip, Mafengwo, and TripAdvisor are selected. The popular tourist attractions and attractions in Sanya are selected as the screening objects, the ID of the user is the classification condition, and it uses the Python programming language to crawl the reviews. The effective content crawled includes the user ID name of each review, the current city of the person posting the review (subject to the city selected when the account is registered), the review time (specific to the day), and the text content of the review. Due

to conditions such as limited website display, repeated user accounts, vague source locations, and the data that cannot be obtained reviewer ID's location after 2016. The final crawling review period is from 2014 to 2016, and there are 75,295 online reviews of tourists from 34 provinces, municipalities directly under the Central Government, and Hong Kong, Macao and Taiwan regions with a clear current city.

This paper will use the sentiment-analysis method, which is a research method to judge the emotion and attitude of the creator of the text content by sorting out and analyzing the content of the subjective online reviews of tourists. Authorized by the research team of Liu Yi et al. (2017a), this paper uses the traveler sentiment evaluation model (TSE model for short) to calculate the score. In the TSE model, it contains 3507 positive words and 3365 negative words. When the emotional words appear in the reviews, the emotional score based on a HowNet dictionary and lexicon-filtering rules that represent semantic logic. The standard is shown in the following table.

**Table1.** *The standard of positive and negative emotional words*

Word Emotion	Accompanying content	Word Score
Positive	/	1
Negative	/	-1
Positive/ Negative	odd-numbered denial ("not", "never", etc.)	-1/1
Positive/Negative	even-numbered denial	1/-1
Positive/Negative	adversative ("Although", "though", etc.)	-0.5/0.5
Positive/Negative	adversative ("but", "however", etc.)	2/-2

The emotional tendency of a review is determined by the scores of all emotional vocabulary in the review. The standard for judging the emotional tendency of a review is shown in the following table.

**Table2.** *The standard of positive and negative emotional review*

Score	Emotion
Positive $\geq 4 \times \text{ABS Negative}$	Positive
$2 \times \text{ABS Negative} < \text{Positive} < 4 \times \text{ABS Negative}$	Neutral
Positive $< 2 \times \text{ABS Negative}$	Negative

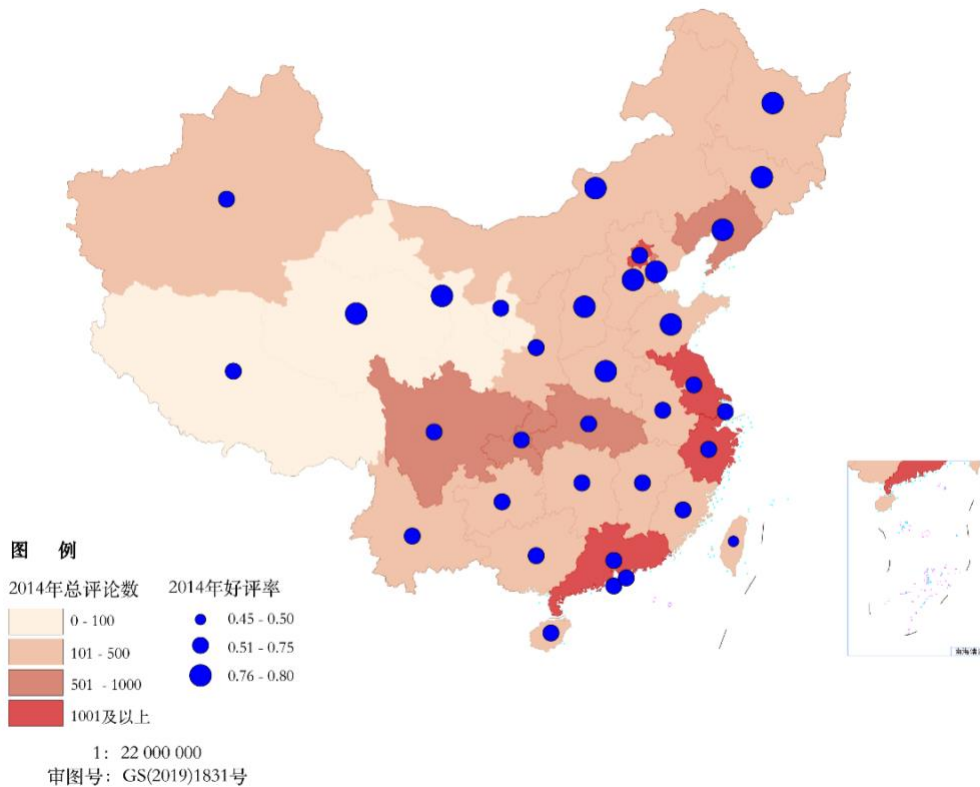
Finally, the ratio of the number of positive evaluations to the total number of evaluations is defined as the positive evaluation rate, which represents the reputation of the province.

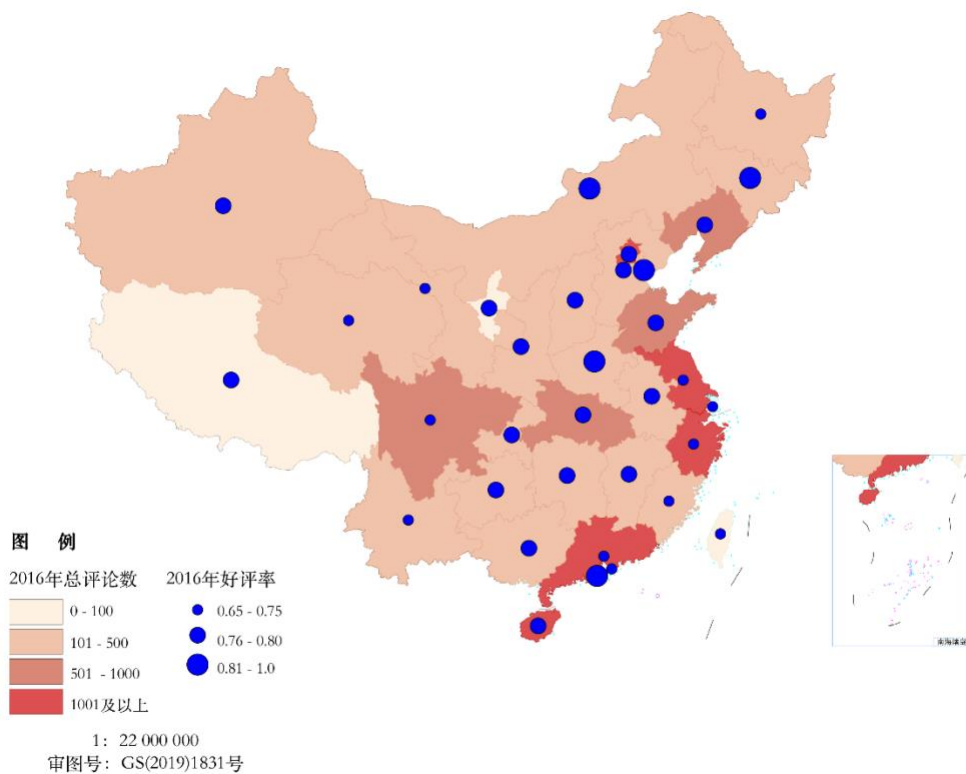
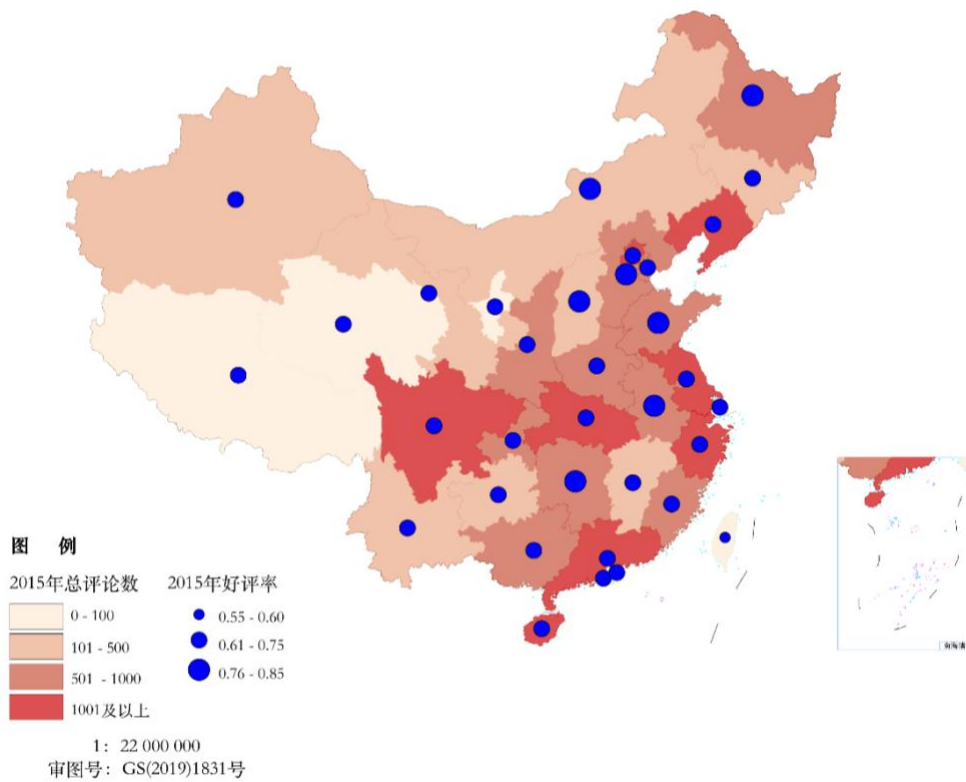
## Results

In order to study the changes in tourist attention and reputation of Sanya in two dimensions of different time and space, the characteristics of the time and space distribution of Sanya's tourism market structure will be analyzed from both annual and quarterly aspects.

## Annual spatial distribution characteristics of the source market

The degree of attention, that is, the total number of evaluations, the increase or decrease can reflect the changes in the attention of tourists to Sanya; and the reputation can directly reflect the positive evaluation of tourists on Sanya as a tourism destination. Figure 1 shows the attention and reputation of tourists in Sanya from 2014 to 2016. From the perspective of attention, the overall trend from 2014 to 2016 was first up and then down, but the overall fluctuation range was not large, and it was in a relatively stable range.





**Figure.1** Province distribution of total and positive Reviews (2014~2016)

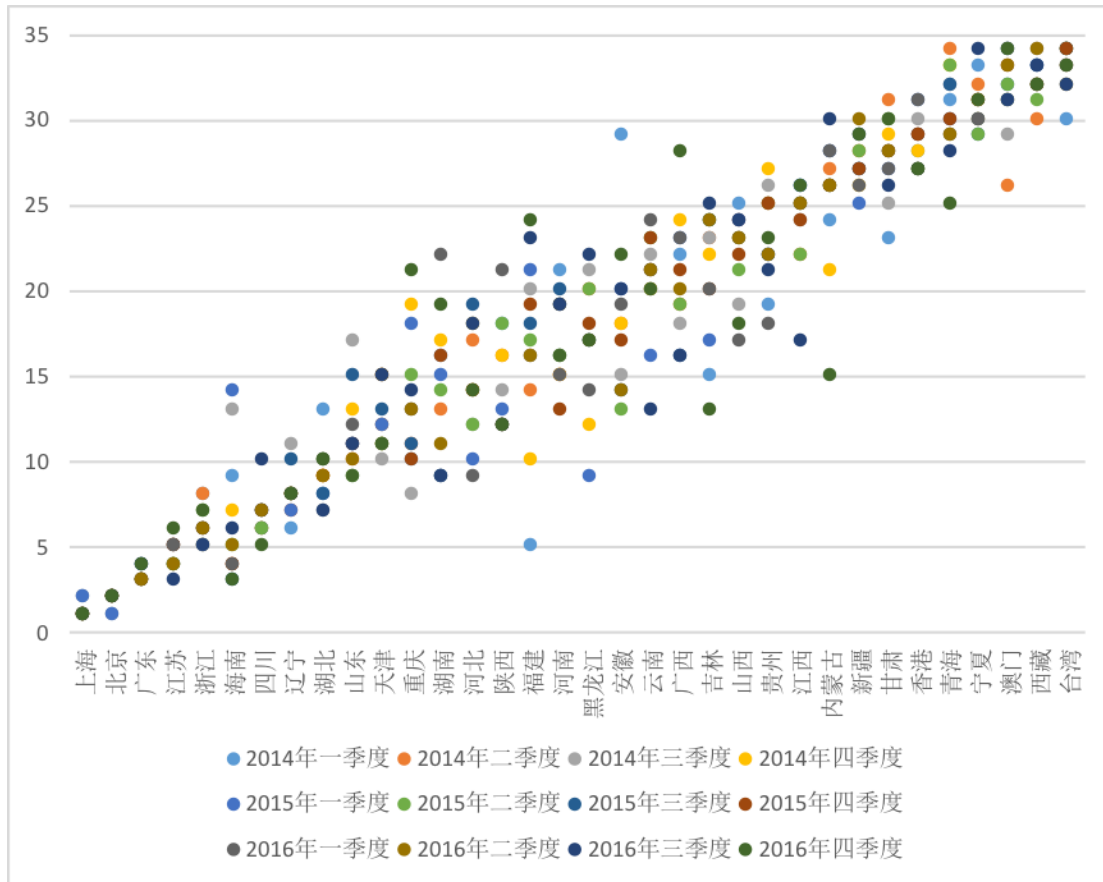
Based on the overall situation of the three years, the overall spatial distribution of tourists' attention in Sanya has changed little. Important provinces that have received high attention mainly include Shanghai, Beijing, Guangdong, Jiangsu and Zhejiang, which have relatively high levels of economic development and tourists there have a certain economic capacity and willingness to spend. The major tourism markets with great potential are Tianjin, Liaoning, Sichuan, Chongqing, Hubei and Shandong, which are also provinces with relatively developed domestic economies, and tourists have higher feasibility of potential travel.

The reputation is generally on the rise. In 2014, the reputation has been rising from the south to the north, but it was broken in 2015, and most provinces across the country ranked second in their reputation. In 2016, reputation increased significantly, but the difference in reputation between provinces widened.

It can be seen that the inter annual differences in the degree of online attention and reputation of Sanya in different provinces are not large. The reviews made by tourists online from 2014 to 2016 and the positive evaluation of Sanya's tourist attractions and attractions have been relatively stable. The relatively mature market structure of Sanya's attention and reputation: Beijing, Shanghai, and Guangdong are three economically developed provinces as the key markets; the five provinces of Jiangsu, Zhejiang, Sichuan and Liaoning are the secondary markets with development potential; the other 26 provinces are the general market.

#### **Quarterly spatial distribution characteristics of the source market**

In order to understand the spatial and temporal distribution of tourists' online evaluations in different seasons in Sanya, the attention and reputation are sorted and calculated according to 4 quarters, and a vertical comparison of 4 quarters in the same year and a horizontal comparison of the same quarter in different years are carried out. As shown in Figure 2, the ordinate represents the ranking of the degree of attention each province has received in different quarters. The top 11 cities and the last 8 cities have relatively stable changes.



**Figure.2** Province Ranking of Total Reviews (2014~2016)

In longitudinal comparison of the four quarters in the same year, the attention of tourists in 2014 has gradually increased from the first quarter to the fourth quarter, reflecting the attractiveness of Sanya as a tropical coastal resort. In the first and second quarters, Sanya's tourist attention mainly came from the eastern coastal areas and the more economically developed provinces and cities such as Sichuan, but their reputations were low; the number of tourists in Sanya's provinces increased in the third quarter, while the reputation of the eastern region A slight increase; the fourth quarter is a time period with significant climate differences in my country. Most tourists choose to travel to Sanya to escape the cold, and their attention has also increased significantly. The situation in 2015 was similar to that in 2014. In first quarter of 2015, Sanya received a high degree of attention and expanded to the Southwest and Central China, but the provinces with higher attention have a lower reputation; the third and fourth quarters showed a clear pattern of attention. In addition, the reputation of the eastern region was significantly higher than that of the western region in the third quarter, but the opposite was true in the fourth quarter. In 2016, the number of tourist reviews decreased in the second and third quarters, and the attention of tourists in Sanya has changed significantly. On the contrary, the positive evaluation rate of provinces with less reviews has been higher. In the fourth quarter, tourists from different provinces have reshuffled their attention to Sanya, leaving Shanghai, Beijing, Guangdong and other provinces, but the positive evaluation rate is relatively high across the country.

In the horizontal comparison of the same quarter in different years, the attention of the first quarter of 2014 to 2016 has been rising, and the reputation has risen slightly. From 2014 to the second

quarter of 2016, the attention degree increased first and then decreased; the reputation changed slightly within the range of 70%. The total number of reviews in the third quarter fluctuates; but the change in reputation is the opposite. Compared with 2014, the reputation of South China, East China, Central China and North China were slightly lower in 2015; however, in 2016, the reputation of Jiangxi, Anhui, Taiwan and other provinces have increased. In the fourth quarter of 2014 to 2016, the attention in 2016 was significantly lower than in 2014 and 2015, and the reputation has improved.

Judging from the quarterly data from 2014 to 2016, the total number of reviews usually reaches the maximum in the third and fourth quarters, that means Sanya has attracted more attention from tourists. Many tourists especially student groups, travel during the summer vacation, and the number of tourists increased significantly in the third quarter; at the same time, Sanya is a tropical coastal tourism city suitable for northern tourists to take refuge in the cold, so the number of tourists will increase significantly in the fourth quarter.

## **Discussion and Conclusion**

The emergence of tourism big data represented by social media UGC has provided new information channels and innovative opportunities for the research on the temporal and spatial characteristics of tourism markets. But how to effectively mine UGC and verify it with traditional theories is a difficult problem for scholars and industry researchers. To this end, based on the more advanced TSE model, with the help of two indicators of attention and reputation, and taking Sanya as a case study, this paper excavated the basic temporal and spatial characteristics of the tourism market structure contained in UGC, and obtained three main conclusions.

First of all, drawing upon the case of Sanya, China's tourism market structure has become matured with stable spatial structure in terms of the indicators of Attention and Reputation. This is manifested by the stability of the core and peripheral markets over times. Only the intermediate market has certain dynamics. This market structure is significantly associated with the spatial pattern of China's economic development level and residents' income level.

Secondly, in tourism UGC, only attention has certain temporal and geographical characteristics, while reputation has not been found in this aspect. From the perspective of spatial dimensions, tourists in the eastern region in China generally pay more attention to Sanya's tourism destinations than in the western region.

Moreover, in the eastern regions, provinces with higher residents' disposable income are more concerned about Sanya. This finding is consistent with the common understanding of the tourism market structure, that is, the income level of the tourist source is an important determinant of the tourist market, further confirming that the attention represented by the tourism UGC can be used to carry out source market analysis. However, the reputation index does not significantly show this spatial structure, which means that tourists from different geographical environments have no significant differences in the degree of preference for Sanya, and there is no obvious correlation with the level of income. From a temporal perspective, the attention of the tourism markets of all the provinces to Sanya has shown an increasing trend from the first quarter of each year to the fourth quarter. The maximum value of each province basically appears in the third and fourth



quarters, but the reputation has not found obvious temporal and spatial evolution characteristics for the time being, which shows that the off-peak season of Sanya's source market is obviously affected by the characteristics of tourism resources and the vacation system.

Finally, this paper finds that spatial distance and climate differences do not significantly affect the tourist attention towards destinations, that is, tourists from provinces with greater distances from Sanya and greater climate differences from Sanya will not necessarily pay more attention to and love Sanya. The main factor is the differences in social and economic conditions. This finding is quite different from traditional cognition, because it is generally believed that tourists from northern regions will pay more attention to and prefer Sanya's tourist attraction due to the longer cold time. Due to the lack of market data of official statistical calibers, this paper cannot verify whether the three provinces of the Northeast are still the core source market of Sanya. However, judging from the reputation and reputation of tourism destinations, the geographical environment factors are not significant influences.

This research has contribution both from method data and theory. First of all, this paper preliminarily describes the basic spatial and temporal characteristics of tourist source areas on a national scale, pointing out that spatial distance and climate differences do not significantly affect the attention of tourism destinations, but the regional characteristics of social economy have a certain impact on the structure of tourism markets. This discovery enriches the research on the spatiotemporal structure of tourist sources and the temporal and spatial changes of tourist emotions, confirming that the geographical environment between the main tourist sources does not affect the reputation of tourism destinations, and is for the subsequent use of UGC data in tourism geography research applications. It provides basic support and also provides important decision-making support for the tourism destination marketing management represented by Sanya. On the other hand, this paper confirms that UGC represented by travel reviews can be used as a new data source to effectively support the development of tourism market research and theoretical innovation. Through the mining of this type of data, the time and space structure, differentiation characteristics and evolution of the tourism market structure can be explored more accurately and richly.

The limitations of this paper are the representativeness of online reviews and data noise issues. Many tourists will not take the initiative to post reviews on online travel websites, so there will be a certain deviation between the network and the actual number of tourists. Secondly, the current attention and reputation indicators that may have some interference factors are not yet clear. Considering these limitations, the future research of big data on tourism can focus on topics such as the geographical difference and reputation of natural conditions, and the spatial movement trajectory of tourists, and focus on exploring the influence of factors such as physical geographical differences and travel experience on the reputation of Sanya. And the mechanism of action, in order to better understand the tourism market structure characteristics and behavior preferences of the source of tourists.

## References

- 保继刚.(1992).引力模型在游客预测中的应用. *中山大学学报: 自然科学版*,031(004),133-136.
- 保继刚,郑海燕,戴光全.(2002).桂林国内客源市场的空间结构演变. *地理学报*(01),96-106.
- 蔡卫民,彭晶,&覃娟娟.(2016).韶山的全国网络关注热度矩阵及推广策略研究. *旅游科学*,030(

- 004),61-72.
- 邓宁,钟栢娜,&李宏.(2018).基于 UGC 图片元数据的目的地形形象感知——以北京为例.  
*旅游学刊*,33(01),53-62.
- 高杨,白凯,&马耀峰.(2019).赴藏旅游者幸福感的时空结构与特征.*旅游科学*,033(005),45-61.
- 韩冬,&张建国.(2018).基于大数据的杭州茶文化特色村旅游形象感知研究.*浙江农业科学*,59(012),2247-2252.
- 何镜如,江恋,&马丽君.(2017).新疆喀纳斯游客网络关注度时空分布特征及影响因素.*经济论坛*(4),54-59.
- 胡喜强.(2017).基于网络评论的长沙城市旅游目的地游客满意度评价(硕士学位论文,湘潭大学).<https://kns.cnki.net/KCMS/detail/detail.aspx?dbname=CMFD201801&filename=1017271405.nh>
- 静恩明,郭风华,李仁杰,张军海,&傅学庆.(2015).基于新浪旅游博客的河北省 a 级景区网络关注度研究.*地理与地理信息科学*(03),122-126.
- 刘清春,王铮,&许世远.(2007).中国城市旅游气候舒适性分析.*资源科学*(01),133-141.
- 刘思婷,戴学军,张志浩,&陈妍.(2018).空间差异下滨海旅游区气候舒适度评价及网络关注相关性分析——以亚龙湾、巽寮湾和北戴河为例.*福建师大学报(自然科学版)*,034(001),95-102.
- 刘逸,保继刚,&朱毅玲.(2017).基于大数据的旅游目的地情感评价方法探究.*地理研究*(6).
- 刘逸,保继刚,&陈凯琪.(2017).中国赴澳大利亚游客的情感特征研究——  
基于大数据的文本分析.*旅游学刊*(5).
- 马丽君,&龙云.(2017).基于网络关注度的湖南省居民旅游需求时空特征.*经济地理*(2).
- 孟思聪,&马晓冬.(2017).基于百度指数的连云港旅游网络关注度研究\*.*旅游论坛*,第 10 卷,(5),102-115.
- 裴韬,刘亚溪,郭思慧,舒华,杜云艳,&马廷等.(2019).地理大数据挖掘的本质.*地理学报*,074(003),586-598.
- 汪德根.(2006).苏州国际旅游客源市场时空变化特征研究.*地理与地理信息科学*(02),103-107.
- 魏维轩,&王南.(0).基于用户网评体验数据挖掘的旅游目的地城市评价与分类规则模型——以中国 342 个旅游目的地城市为例.*中国风景园林学会 2018 年会论文集*.
- 吴必虎,唐俊雅,&黄安民.(1997).中国城市居民旅游目的地选择行为研究.*地理学报*(2 期),97-103.
- 吴必虎.(1994).上海城市游憩者流动行为研究.*地理学报*,61(002),117.
- 王琨,郭风华,李仁杰,&傅学庆.(2014).基于 tripadvisor 的中国旅游地国际关注度及空间格局.*地理科学进展*,33(11),1462-1473.
- 王少兵,&吴升.(2017).基于景点在线评论文本的游客关注度和情感分析.*贵州大学学报(自然版)*,34(006),69-73.
- 宣国富,陆林,汪德根,章锦河,杨效忠.(2004).三亚市旅游客流空间特性研究.*地理研究*(01),115-124.
- 许峰,李帅帅,&齐雪芹.(2016).大数据背景下旅游系统模型的重构.*旅游科学*(1),48-59.
- 闫闪闪,梁留科,索志辉,等 (2017).基于大数据的洛阳市旅游流时空分布特征.*经济地理*(08),216-224.
- 杨兴柱,顾朝林,王群,&卢松.(2011).城市旅游客流空间体系研究——以南京市为例.  
*经济地理*(05),868-873.

- 于静.基于微博大数据的游客情感及时空变化研究[D].陕西师范大学,2015.
- 赵宇翔,范哲,&朱庆华.(2012).用户生成内容(ugc)概念解析及研究进展. *中国图书馆学报*(05), 68-81.
- 张爱平,钟林生,&徐勇.(2013).国外旅游虚拟社区研究进展及启示. *人文地理*(05),6-11.
- 张洪,程振东,&王先凤.(2014).城市居民国内旅游需求影响因素分析及对策研究. *资源开发与市场*,30(006),763-768.
- 张鲜鲜,李婧晗,左颖,张慧敏,&晋秀龙.(2018).基于数字足迹的游客时空行为特征分析——以南京市为例. *经济地理*,38(012),226-233.
- 甄峰,&王波.(2015)."大数据"热潮下人文地理学研究的再思考. *地理研究*(05),5-13.
- Ahas, R. , Aasa, A. , Roose, A. , Mark, U. , & Silm, S. . (2008). Evaluating passive mobile positioning data for tourism surveys: an estonian case study. *Tourism Management*, 29(3), 469-486.
- Baron, Raphael Raymond V. (1975). Seasonality in tourism : a guide to the analysis of seasonality and trends for policy making. *Economist Intelligence Unit*.
- Bangwayo-Skeete, P. F. , & Skeete, R. W. . (2015). Can google data improve the forecasting performance of tourist arrivals? mixed-data sampling approach. *Tourism Management*, 46(feb.), 454-464.
- Cooper, & C., P. . (1981). Spatial and temporal patterns of tourist behaviour. *Regional Studies*, 5(5), 359-371.
- Chua, A. , Servillo, L. , Marcheggiani, E. , & Moere, A. V. . (2016). Mapping cilento: using geotagged social media data to characterize tourist flows in southern italy. *Tourism Management*, 57(dec.), 295-310.
- Teresa Garín-Mun̄oz. (2006). Inbound international tourism to canary islands: a dynamic panel data model. *Tourism Management*, 27(2), 281-291.
- Johnson, P. A. , Sieber, R. E. , Magnien, N. , & Ariwi, J. . (2012). Automated web harvesting to collect and analyse user-generated content for tourism. *Current Issues in Tourism*, 15(3), 293-299.
- Kim, K. , Park, O. J. , Yun, S. , & Yun, H. . (2017). What makes tourists feel negatively about tourism destinations? application of hybrid text mining methodology to smart destination management. *Technological Forecasting and Social Change*, 123(oct.), 362-369.
- Marine-Roig, E. , & Anton Clavé, Salvador. (2015). Tourism analytics with massive user-generated content: a case study of barcelona. *Journal of Destination Marketing & Management*, 4(3), 162-172.
- Zhou, X. , Xu, C. , & Kimmons, B. . (2015). Detecting tourism destinations using scalable geospatial analysis based on cloud computing platform. *Computers Environment & Urban Systems*, 54(NOV.), 144-153.

# Motivation and satisfaction of tourists from Hong Kong and Macau to Chinese Mainland

Chenxi Yu, Guyang Lin & Mimi Li

## Abstract

Chinese mainland has become a popular travel destination for Hong Kong and Macau residents. The study aims to understand the motivation and satisfaction factors of Hong Kong and Macau tourists to China's mainland and to advance the knowledge of the tourist characteristics. The main findings include 1) relaxation and leisure and novelty seeking are the most important motivations while nostalgia is the least important; 2) tourists mainly consider local experience and professional service when evaluating their travel satisfaction.

**Keywords:** Travel motivation, Travel satisfaction, Chinese mainland, Hong Kong, Macau

## Introduction

From 2015 to 2018, among Hong Kong SAR (hereafter Hong Kong) residents who travel outbound, the proportion to China's mainland is the highest, taking up 85% to 89% (Ministry of Culture and Tourism of PRC, 2018), which shows that Chinese mainland is the main destination for Hong Kong residents when traveling outbound. Statistics show that the total number of Macau SAR (hereafter Macau) residents visiting Chinese mainland has been increasing year by year starting from 2014 and has risen from 20.64 million in 2014 to 25.15 million in 2018 (Ministry of Culture and Tourism of PRC, 2018). Since 2017, Hong Kong and Macau have already become the largest source markets to China's mainland (People.cn, 2017; Sina News, 2017).

In light of the significant importance of the two regional markets, Chinese mainland destination marketers must formulate marketing strategies and tourism policies particularly to Hong Kong and Macau tourists. Understanding the latent motives of the tourists, that is, what drive(s) them to travel to China's mainland, as well as their satisfaction with the whole travel experience, help broaden the knowledge about Hong Kong and Macau source markets. Besides, to know the target segments' behaviors comprehensively, it is necessary to discover the markets' demographic and socio-economic characteristics.

Overall, there are three purposes of this study:

- To discover the underlying dimensions related to what motivates Hong Kong and Macau residents to travel to Chinese mainland as well as what makes them satisfied or unsatisfied
- To compare the differences between Hong Kong and Macau markets on travel motivation and post-travel satisfaction in terms of gender, age, income, and education dimensions
- To profile characteristics of different segments of Hong Kong and Macau tourists traveling to China's mainland

## Literature Review

*Hong Kong and Macau residents' travel to Chinese mainland*

As emphasized by China National Tourism Administration, inbound tourism is the core symbol of

the international competitiveness of tourism and is also a key area of the export of tourism service trade (Macau International Airport, 2015). According to the report by China Tourism Academy (2019), Chinese mainland's inbound tourism has maintained a slight growth from 2015 to 2018, and in 2018, China received 141 million inbound tourists, growing by 1.2% year on year. The rapid development of Chinese inbound tourism has also witnessed the increasing strategic position of Hong Kong and Macau. Back in 2017, Chinese mainland and Hong Kong and Macau have already become the largest source markets to each other, with more than 120 million two-way exchange tourists (People.cn, 2017; Sina News, 2017). The long-term contributions to China's mainland created by the two basic markets mainly include economic and social aspects. First, they have made enormous contributions to promoting the prosperity of Chinese economy because of the tourists' huge purchasing power (Law, Cheung, & Lo, 2004; People.cn, 2017); second, they play an important role in maintaining the stability of Hong Kong and Macau societies and promoting the peaceful development in Hong Kong and Macau.

The huge market potential of Hong Kong and Macau makes it undoubtedly meaningful to think about how to maintain the steady growth of the two markets (China Tourism Academy, 2017). Thus, attaching great importance to the role of Hong Kong and Macau markets should be one of the key focuses in tourism development in China because it will not only benefit the structural reforms on the tourism supply side but also promote the comprehensive development of other industries and expand the positive influences of tourism development. Many researchers have treated Hong Kong and Macau as destinations but did not pay much attention to Hong Kong and Macau residents' travel experiences to Chinese mainland (Zhang, Law, & Liu, 2012). Therefore, the main focus of this study is to explore these two behavioral constructs in detail to fill in the research gap.

### *Travel Motivation and Satisfaction*

The understanding of travel motivation and satisfaction of Hong Kong and Macau residents is a foremost stage to provide insights from the research view and to proceed further discussion (Yoon & Uysal, 2005; Guillet, Law, & Leung, 2012).

Yoon and Uysal (2005) defined that motivation is psychological or biological needs and wants that drive and influence an individual's behavior. There are several classical motivation theories as shown in Table 2-1.

Table 2-1 Major travel motivation theories

Theory	Developed by	Proposition
Maslow's Hierarchy of Need Theory	Maslow (1943)	There are five needs of human beings: physiological needs, safety needs, love needs, esteem needs, and self-actualization needs. Once lower-level needs are satisfied, higher-level needs appear.
Push and Pull Theory	Dann (1977)	People are motivated internally by push factors and externally by pull factors. Push factors refer to personal needs and demands while pull factors refer to destination attributes that attract tourists to visit (Guillet, Lee, Law, & Leung, 2011).

Escape-Seeking Theory	Iso-Ahola (1982)	Two motivations are involved in every leisure activity: escaping and seeking. Escaping is the want to leave the daily routines behind a person while seeking is the need to get psychological (intrinsic) rewards by traveling to a different environment.
Travel Career Ladder Theory	Pearce & Caltabiano (1983)	Travelers' motivation is influenced by their travel experience (Pearce & Caltabiano, 1983; Pearce & Lee, 2005). Tourist motivation is categorized into five levels from the lowest to highest: relaxation needs, safety or security needs, relationship needs, self-esteem and development needs, and self-actualization or fulfillment needs.

Pearce and Lee (2005) concluded that novelty, escape or relaxation, and relationship are the most important factors in determining travel motivation while recognition, romance, and nostalgia are the least important ones. In the Hong Kong context, a study that was done among 9,175 Hong Kong residents who were 18 years old or above indicated that rest and relax was the most crucial motivation factor to their outbound travel while meeting different people was the least crucial one (Guillet et al., 2011). Similarly, Guillet, Law, and Leung (2012) found out that from 2005 to 2010, relaxation and family time were rated as the most important motivation factors by average, while meeting people was put least important for Hong Kong pleasure travelers. Another large-scale study conducted in 2010 collected 1238 valid samples among Hong Kong residents (Zhang, Law, & Liu, 2012) and suggested that the most important motivational factor was “rest and relax” as well. It also explained that there was no significant difference in travel motivations between genders. However, there are some embedded limitations of these previous studies. First, most of them were carried out a few years ago, which were too outdated to track the latest tourist behaviors. Second, many researchers have seen Hong Kong and Macau as popular destinations for Chinese mainland tourists, but limited studies discussed Hong Kong and Macau tourists' motivations when they travel to Chinese Mainland.

Tourist satisfaction has often been a prevailing research field because tourists' satisfaction with a destination is a key measure to the destination's product and service quality (Noe & Uysal, 1997; Schofield, 2000). Consumer satisfaction and service quality have a significant impact on customer loyalty, market share, and profitability (Cole & Scott, 2004; Tsaur, Chiu, & Wang, 2007). Therefore, it is always necessary for tourism professionals to learn clearly about how the tourists feel and where they can make further improvements, so that customer loyalty can be established (Song, Van der Veen, Li, & Chen, 2012; Wong, Xu, Tan, & Wen, 2019).

Table 2-2 summarizes three well-known theories on tourist satisfaction. Similar to motivation, there are also problems such as not out-of-date research findings as well as the lack of focus on the satisfaction of Hong Kong and Macau tourists to China's Mainland.

Table 2-2 Major travel satisfaction theories

Theory	Developed by	Proposition
Expectation-Disconfirmation Model	Oliver (1980)	Tourist satisfaction is based on the gap between the tourists' expectations and their experience of the service. If the actual performance is better than their expectations, positive disconfirmation happens, which means the consumers feel very satisfied with what they receive and will be more likely to purchase again.
Perceived Performance Model	Tse & Wilton (1988)	Consumer satisfaction is related to the actual performance of the destination and has no relation to consumers' expectations. Only actual experiences of the tourists are assessed to examine their satisfaction.
Equity theory	Oliver & Swan (1989)	Money, rewards, time, and effort are the main factors in deciding satisfaction. Tourists can be satisfied if they receive corresponding benefits as what they pay.

To sum up, given the reasons mentioned above that previous studies may include outdated research findings and lack of market focus, another purpose of this study is to understand Hong Kong and Macau tourist motivation and satisfaction from a comparative point of view. In this study, mainly push and pull theory in motivation and perceived performance model in satisfaction are adopted.

#### *Tourist characteristics*

As suggested by Stern and Krakover (1993), the destination image to an individual is shaped by not only the external information provided but also the personal characteristics. Many scholars have agreed that the internal characteristics can make an influence on a person's perception of a destination, and thus the decision-making process (Stabler, 1988; Beerli & Martín, 2004). Those characteristics include socio-demographic factors, such as gender, age, social class, and education background. Identifying tourists' characteristics is also beneficial to explore their travel motivations (Um & Crompton, 1992; Meric & Hunt, 1998), as well as to promote their satisfaction based on their travel preferences.

Although many motivation and satisfaction factors were identified before, few scholars have tried to classify the samples based on the factors or summarized the samples' socio-demographic features. Therefore, this study also aims to profile the demographic and socioeconomic attributes of the samples based on motivation and satisfaction factors generated. In this study, four characteristics will be used to compare: gender, age, monthly income, and education.

## **Methodology**

### *Data Collection and Sampling*

The target population of the survey is Hong Kong and Macau permanent residents, or residents

who have lived in Hong Kong or Macau for more than seven years. Designed based on gender and age, the questionnaire adopted a quota sampling method and was distributed through professional survey companies. The survey lasted from September to October in 2019, and a combined total of 516 valid samples were collected, including 312 Hong Kong residents and 204 Macau residents.

53.5% of Hong Kong residents interviewed were male and 46.5% were female. 17.9% were people aged between 50 to 54, followed by people aged 45 to 49 (15.1%), 40 to 44, and 35 to 39 (14.4%). Among income ranges, the monthly income of HK\$30,000 to HK\$39,999 accounted for the highest proportion (18.9%), followed by HK\$15,000 to HK\$19,999 (17.3%). More than 20% of Hong Kong residents had a monthly income of more than HK\$40,000. More than 60% of the respondents had a bachelor's degree or above, and only 0.6% of them had an education of junior high school or below.

Among Macau interviewees, 45.1% were male and 54.9% were female. 18.1% of them were 30 to 34 years old, followed by 25 to 29 (15.7%), 35 to 39, and 50 to 54 (14.2%). As for income, the segment of below MOP\$15,000 monthly income accounted for the most (24%), followed by MOP\$20,000 to MOP\$29,999 (20.6%). Only 8.9% had monthly income over MOP\$40,000. More than 50% of the interviewees had a bachelor's degree or above, and 7.8% of people who had an education of junior high school or below.

### *Measurement*

Table 3-1 lists the two constructs discussed in this study, and survey questions and measurement involved in each construct.

Tourist motivation was measured based on theoretical frameworks provided by diverse literature (e.g. Crompton, 1979; Beard & Ragheb, 1983; McIntosh & Goeldner, 1986; Pearce, 1988; Ross & Iso-Aloha, 1991; Uysal & Jurowski, 1994; Klenosky, 2002; Pearce & Lee, 2005; Guillet et al., 2011). 39 statements were covering both push factors and pull factors. The subjects were asked to evaluate the degree of importance of the statements to their travel to the mainland of China in the past six months. The measurement of visitor satisfaction was developed based on the perceived performance model (Tse & Wilton, 1988). The respondents were asked to assess their degree of agreement on 12 statements about their travel to Chinese mainland in the past six months. Both constructs were measured on a 7-point Likert scale.

Table 3-1 Variables and Measurement

Construct	Survey Question	Measurement
<b>Motivation</b>	1. I want to relieve stress	7-point Likert Scale (7 = most important, 1 = most unimportant)
	2. I want to relax in my daily life	
	3. I want to experience freedom	
	4. I want to refresh my body and mind	
	5. I want to enjoy luxurious experiences	
	6. I want to enjoy delicious food	
	7. I want to get close to nature	
	8. I want to enjoy sunny beaches	
	9. I want to find my roots	
	10. I want to visit family and friends	
	11. I want to create chances to get along with my family and friends	



	12. I want to know people with the same interests as me	
	13. I want to broaden my knowledge	
	14. I want to go to places I have never been to	
	15. I want to get inspired in travel	
	16. I want to experience different cultures	
	17. I want to visit historical and cultural places of interest	
	18. I want to watch shows	
	19. I want to join in or watch sports	
	20. I want to experience the unique environment of Chinese mainland	
	21. I want to try some different foods	
	22. I want to experience different lifestyles	
	23. I want to reach local residents	
	24. I want to meet people from different backgrounds	
	25. I want to have fun	
	26. Suitable travel distance	
	27. Convenient transportation	
	28. High cost-effectiveness	
	29. Easy access to tourism information	
	30. Well-equipped infrastructure	
	31. Safety	
	32. High-quality hygiene condition	
	33. High-quality food	
	34. High-quality air condition	
	35. Convenient and comfortable accommodation	
	36. Beautiful natural scenery	
	37. Profound history and culture	
	38. Attractive scenic spots	
	39. Rich entertainment activities	
Satisfaction	1. Overall, I am very satisfied with the overall experience during my last trip	7-point Likert Scale (7 = very disagree, 1 = very agree)
	2. Overall, I am very satisfied with the accommodation experience during my last trip	
	3. Overall, I am very satisfied with the dining experience during my last trip	
	4. Overall, I am very satisfied with the transportation experience during my last trip	
	5. Overall, I am very satisfied with the shopping experience during my last trip	
	6. Overall, I am very satisfied with the scenic spot tour during my last trip	
	7. Overall, I am very satisfied with the travel agency service during my last trip	
	8. Overall, I am very satisfied with the tour guide during my last trip	
	9. Overall, I am very satisfied with the communication during my last trip	
	10. Overall, I am very satisfied with the toilets during my last trip	

- 
11. Overall, I am very satisfied with the tour leader during my last trip
  12. Overall, I am very satisfied with the APP (s) I used during my last trip
- 

### *Statistical Analysis*

Descriptive Statistics Analysis was first used to draft the respondents' profiles. Next, Exploratory Factor Analysis (EFA) was employed to uncover the underlying motivation and satisfaction dimensions of the variables for the two regions respectively. A principal component method with varimax rotation was applied. Eigenvalues of 1 were chosen as the cutoff point to extract factors. Items with low factor loadings (<.50) and high cross-loadings (>.50) were removed one at a time. This process continued until no more items needed to be removed. For each region, to examine differences of the factors between genders, an independent t-test was further conducted. One-Way ANOVA was also undertaken to examine differences in the two constructs between age, income, and education. Then, cluster analysis of motivation using both hierarchical and non-hierarchical methods was applied to classify the samples into smaller groups. Crosstabulation was then conducted to find out the characteristics of each cluster.

## **Results**

### *Descriptive Analysis*

Table 4-1 shows descriptive analysis results on Hong Kong and Macau respondents' travel motivations of traveling to Chinese mainland. The top three motivations for Hong Kong respondents are: I want to refresh my body and mind; I want to enjoy delicious food and I want to go to places I have never been to. Except for "I want to visit family and friends", "I want to join in or watch sports" and "I want to find my roots", other items are scored higher than the average score 4. The top three motivations for Macau respondents are: I want to enjoy delicious food; I want to try some different foods and rich entertainment activities. Except for "I want to find my roots", other items are scored higher than the average score 4.

Table 4-1 Descriptive Analysis of Motivations of Hong Kong and Macau residents

<b>Motivation Items</b>	<b>Score (Hong Kong, N=312)</b>	<b>Score (Macau, N=204)</b>
I want to relieve stress	4.97	5.00
I want to relax in my daily life	5.06	5.16
I want to experience freedom	4.94	5.10
I want to refresh my body and mind	5.15	5.24
I want to enjoy luxurious experiences	4.15	4.69
I want to enjoy delicious food	5.12	5.53
I want to get close to nature	4.76	5.15
I want to enjoy sunny beaches	4.36	4.93
I want to find my roots	3.56	3.99
I want to visit family and friends	3.90	4.55
I want to create chances to get along with my family and friends	4.69	5.26
I want to know people with the same interests as me	4.24	5.21

I want to broaden my knowledge	4.78	5.13
I want to go to places I have never been to	5.09	5.31
I want to get inspired in travel	4.80	5.03
I want to experience different cultures	4.88	5.19
I want to visit historical and cultural places of interest	4.81	5.08
I want to watch shows	4.13	4.57
I want to join in or watch sports	3.88	4.49
I want to experience the unique environment of Chinese mainland	4.13	4.89
I want to try some different foods	4.93	5.44
I want to experience different lifestyles	4.71	5.36
I want to reach local residents	4.32	4.93
I want to meet people from different backgrounds	4.31	5.00
I want to have fun	4.56	4.94
Suitable travel distance	4.98	5.10
Convenient transportation	4.77	5.12
High cost-effectiveness	4.66	5.16
Easy access to tourism information	4.54	5.11
Well-equipped infrastructure	4.52	5.08
Safety	4.41	4.87
High-quality hygiene condition	4.14	4.62
High-quality food	4.44	5.00
High-quality air condition	4.04	4.87
Convenient and comfortable accommodation	4.51	5.05
Beautiful natural scenery	4.84	5.27
Profound history and culture	4.80	5.24
Attractive scenic spots	4.69	5.29
Rich entertainment activities	4.40	5.39

Tables 4-2 shows the descriptive analysis results on satisfaction. The top three most satisfying experiences for Hong Kong subjects are overall experience, accommodation experience, and dining experience. For Macau subjects, accommodation experience, overall experience, and dining experience are the three most satisfying experiences. The scores of all items are higher than the average score of 4 for both regions.

Table 4-2 Descriptive Analysis of Satisfaction of Hong Kong and Macau residents

Satisfaction Items	Score (Hong Kong, N=312)	Score (Macau, N=204)
Overall, I am very satisfied with the overall experience during my last trip	5.07	5.34
Overall, I am very satisfied with the accommodation experience during my last trip	5.06	5.42
Overall, I am very satisfied with the dining experience during my last trip	5.05	5.29
Overall, I am very satisfied with the transportation experience during my last trip	4.88	5.13
Overall, I am very satisfied with the shopping experience during my last trip	4.61	4.84

Overall, I am very satisfied with the scenic spot tour during my last trip	4.92	5.13
Overall, I am very satisfied with the travel agency service during my last trip	4.48	4.42
Overall, I am very satisfied with the tour guide during my last trip	4.45	4.41
Overall, I am very satisfied with the communication during my last trip	4.81	5.27
Overall, I am very satisfied with the toilets during my last trip	4.24	4.46
Overall, I am very satisfied with the tour leader during my last trip	4.42	4.32
Overall, I am very satisfied with the APP (s) I used during my last trip	4.55	5.07

### *Exploratory Factor Analysis*

Table 4-3 shows factor analysis for motivation of Hong Kong respondents. Eight rounds of factor analyses were conducted, and four factors were derived. Based on the common features of each item in each factor, the four factors were labeled as tourism environment, novelty seeking, relaxation, and leisure, and accessibility. The descriptive analysis of motivation (Table 4-1) shows that among 39 motivational items, 3 of them have mean values of smaller than 4, which means that those were not important to Hong Kong residents interviewed and thus were removed as suggested by previous studies (e.g., Yoon & Uysal, 2005; Li, 2007). Table 4-4 shows the results of factor analysis for motivation of Macau respondents. Fifteen rounds of factor analyses were conducted, and five factors were extracted, which are relaxation and leisure, tourism environment, accessibility, entertainment and activities, and attraction. As shown in the descriptive analysis of motivation (Table 4-1), 1 item's score is below 4 so it was removed.

Table 4-3 Factor Analysis of Motivation of Hong Kong respondents (N=312)

Dim.	Item	Parameters of Significant Test				Composite Reliability	Convergence Validity
		Loading	S.E.	Est./S.E.	P-Value		
TE	TE1	.828	.030	27.770	***	.903	.611
	TE2	.895	.022	40.978	***		
	TE3	.860	.026	32.968	***		
	TE4	.721	.042	16.982	***		
	TE5	.746	.040	18.686	***		
	TE6	.601	.055	10.892	***		
NS	NS1	.697	.056	12.449	***	.823	.350
	NS2	.683	.054	12.618	***		
	NS3	.474	.071	6.683	***		
	NS4	.723	.051	14.166	***	.836	.460
	NS5	.697	.056	12.507	***		
	NS6	.540	.075	7.231	***		
	NS7	.522	.075	6.952	***		
	NS8	.382	.082	4.679	***		
	NS9	.505	.073	6.940	***		

RL	RL1	.604	.061	9.984	***	.839	.478
	RL2	.855	.033	25.772	***		
	RL3	.788	.038	20.510	***		
	RL4	.815	.035	23.340	***		
	RL5	.439	.075	5.893	***		
	RL6	.541	.066	8.191	***		
AC	AC1	.773	.049	15.743	***	.814	.593
	AC2	.720	.052	13.932	***		
	AC3	.815	.047	17.205	***		

Table 4-4 Factor Analysis of Motivation of Macau respondents (N=204)

Dim.	Item	Parameters of Significant Test				Composite Reliability	Convergence Validity
Motivation		Loading	S.E.	Est./S.E.	P-Value	CR	AVE
RL	RL1	.850	.045	18.964	***	.772	.536
	RL2	.573	.100	5.723	***		
	RL3	.746	.065	11.562	***		
	RL4	.674	.077	8.747	***		
TE	TE1	.865	.045	19.287	***	.836	.563
	TE2	.645	.070	9.251	***		
	TE3	.718	.059	12.103	***		
	TE4	.756	.054	13.993	***		
AC	AC1	.871	.093	9.319	***	.739	.495
	AC2	.529	.090	5.874	***		
	AC3	.669	.088	7.575	***		
EA	EA1	.503	.088	5.721	***	.703	.422
	EA2	.986	.089	11.046	***		
	EA3	.650	.080	8.135	***		
	EA4	.199	.100	1.984	*		
AT	AT1	.951	.071	13.485	***	.803	.588
	AT2	.532	.081	6.560	***		
	AT3	.760	.070	10.892	***		

Independent t-test results show that there is no significant difference between males and females on any motivational factor in both regions. In Macau, One-way ANOVA suggests there is also no difference in motivation between age and income groups. However, there is a significant difference for Hong Kong visitors on age. The motivation of people aged 30 to 34 scores the lowest in “Tourism Environment”, “Novelty seeking” and “Relaxation and Leisure”, while the motivation of people aged 45 to 49 always scores the highest amongst the groups in these three factors. There is also a significant difference in “Relaxation and Leisure” related to income levels. People who earn HK\$25,000 to HK\$29,999 per month are motivated by “Relaxation and Leisure” more than any other groups, followed by two groups of respondents who earn at least HK\$40,000 per month, while people with HK\$15,000 to HK\$19,999 monthly income are motivated the least by that factor. Interestingly, for both Hong Kong and Macau residents interviewed, there is a significant difference between education levels on one motivation factor: Tourism Environment. People who

are more educated tend to be less motivated by the environment in China's mainland.

Table 4-5 shows factor analysis for satisfaction of Hong Kong respondents. Two rounds of factor analyses were conducted. Two factors were derived and were labelled as local experience and professional service, based on the common features of each item in each factor. The results for the Macau group are presented in Table 4-6. Three rounds of factor analyses were conducted. Two factors were derived and were also labelled as local experience and professional service.

Table 4-5 Factor Analysis of Satisfaction of Hong Kong respondents (N=312)

Dim.	Item	Parameters of Significant Test				Composite Reliability	Convergence Validity
Satisfaction		Loading	S.E.	Est./S.E.	P-Value	CR	AVE
LE	LE1	.653	.051	12.799	***	.872	.478
	LE2	.782	.037	21.123	***		
	LE3	.731	.042	17.343	***		
	LE4	.817	.032	25.321	***		
	LE5	.849	.029	29.349	***		
	LE6	.406	.072	5.678	***		
	LE7	.770	.038	20.042	***		
	LE8	.323	.077	4.216	***		
PS	PS1	.935	.051	18.377	***	.818	.621
	PS2	.900	.050	17.863	***		
	PS3	.423	.070	6.085	***		

Table 4-6 Factor Analysis of Satisfaction of Macau respondents (N=204)

Dim.	Item	Parameters of Significant Test				Composite Reliability	Convergence Validity
Satisfaction		Loading	S.E.	Est./S.E.	P-Value	CR	AVE
LE	LE1	.757	.059	12.934	***	.762	.371
	LE2	.810	.054	14.958	***		
	LE3	.512	.086	5.968	***		
	LE4	.697	.065	10.779	***		
	LE5	.371	.097	3.838	***		
	LE6	.330	.099	3.317	**		
PS	PS1	.559	.101	5.533	***	.691	.435
	PS2	.268	.097	2.756	***		
	PS3	.294	.105	2.814	***		
	PS4	1.127	.170	6.649	***		

For Hong Kong people, there is a significant difference in "Local Experience" within each tourist characteristic. Men are generally more satisfied than women. People aged 25 to 29 feel least satisfied with both two factors, but starting from 35 to 39 group, the satisfaction level increases and reaches the highest in 50 to 54 group, despite a slight drop in the 45-to-49 segment on "Local Experience". From an income perspective, people with HK\$20,000 to HK\$29,999 monthly income

feel more satisfied with “Local Experience” than those with less than HK\$20,000 monthly income. Finally, there is a significant difference between education levels, people with junior high school or below education are more satisfied than the other four groups of people on both two factors.

For Macau respondents, there is no significant difference in terms of gender, age, income, and education.

### *Cluster Analysis*

There are 142 (45.5%), 142 (45.5%) and 28 (9.0%) respondents in the three clusters in Hong Kong group, while in Macau segment, there are 62 (30.4%), 70 (34.3%), 72 (35.3%) respondents in three clusters. The mean values of each motivational item were computed to label the groups as shown in Table 4-7 and Table 4-8. The labels were decided depending on the most important motivation item in each cluster. As a result, the three clusters in the Hong Kong group were labelled as Multi-purpose Seeker, Active Passive Segment, and Passive Segment, and the Macau clusters were labelled as Active Passive Segment, Entertainment and Activities Seeker, and Multi-purpose Seeker.

The results show that in the Hong Kong group, there are more females (56.3%) than males (43.7%) in the Active-Passive Segment. For both Multi-purpose Seeker and Active Passive Segment groups, people aged 50 to 54 take up the most percentage among all age groups (21.1% and 16.9% respectively), while for the passive segment, 28.6% of interviewees are between 30 to 34 years old. Among all three clusters, respondents with a bachelor’s degree are the most.

For Macau respondents, there are more females (58.1%) than males (41.9%) in the Active-Passive Segment. The income group of below MOP\$15,000 and between MOP\$25,000 to MOP\$29,999 account for the most percentage of Active Passive Segment (24.2%) and people with a monthly income of MOP\$20,000 to MOP\$24,999 (22.9%) are the most in Entertainment and Activities Seeker; most respondents in Multi-purpose Seeker cluster fall in the income group of below MOP\$15,000 (29.2%). Among all three clusters, respondents with a bachelor’s degree are the most.

Table 4-7 Cluster Analysis on motivation of Hong Kong respondents (N=312)

<b>Factor/Item</b>	<b>Cluster 1</b>	<b>Cluster 2</b>	<b>Cluster 3</b>
<b>Factor 1:</b>	<b>5.35</b>	3.81	1.95
<b>Tourism Environment</b>			
High-quality hygiene condition	<b>5.15</b>	3.58	1.89
High-quality food	<b>5.42</b>	3.95	1.93
High-quality air	<b>5.08</b>	3.46	1.75
Safety	<b>5.41</b>	3.89	2.00
Convenient and comfortable accommodation	<b>5.51</b>	3.95	2.25
Well-equipped infrastructure	<b>5.51</b>	4.06	1.86
<b>Factor 2:</b>	<b>5.52</b>	4.45	2.19
<b>Novelty Seeking</b>			
I want to experience different cultures	<b>5.67</b>	4.62	2.14
I want to broaden knowledge	<b>5.61</b>	4.49	2.04
I want to get inspired in travel	<b>5.61</b>	4.52	2.11
I want to visit historical and cultural places of interest	<b>5.51</b>	4.60	2.32
I want to visit places that I have never	<b>5.82</b>	4.85	2.64

been to			
I want to reach local residents	<b>5.20</b>	3.94	1.82
I want to experience different lifestyles	<b>5.55</b>	4.37	2.14
I want to meet people from different backgrounds	<b>5.00</b>	4.09	1.93
I want to try some different foods	<b>5.73</b>	4.60	2.54
<b>Factor 3:</b>	<b>5.78</b>	4.72	2.45
<b>Relaxation and Leisure</b>			
I want to refresh my body and mind	<b>5.91</b>	4.91	2.57
I want to relax in daily life	<b>5.88</b>	4.74	2.50
I want to relieve stress	<b>5.76</b>	4.65	2.54
I want to experience freedom	<b>5.82</b>	4.61	2.14
I want to enjoy delicious food	<b>5.93</b>	4.84	2.43
I want to get close to nature	<b>5.40</b>	4.57	2.50
<b>Factor 4:</b>	<b>5.70</b>	4.34	2.56
<b>Accessibility</b>			
High cost-effectiveness	<b>5.63</b>	4.14	2.36
Suitable distance	<b>5.76</b>	4.58	3.04
Convenient transportation	<b>5.73</b>	4.30	2.29

Table 4-8 Cluster Analysis on motivation of Macau respondents (N=204)

<b>Factor/Item</b>	<b>Cluster 1</b>	<b>Cluster 2</b>	<b>Cluster 3</b>
<b>Factor 1: Relaxation and Leisure</b>	4.94	4.65	<b>5.75</b>
I want to relax in daily life	5.05	4.79	<b>5.62</b>
I want to refresh my body and mind	5.03	4.67	<b>5.96</b>
I want to experience freedom	4.85	4.64	<b>5.76</b>
I want to relieve stress	4.81	4.50	<b>5.65</b>
<b>Factor 2: Tourism Environment</b>	5.36	3.81	<b>5.52</b>
High-quality air	5.26	3.81	<b>5.56</b>
High-quality hygiene condition	<b>5.35</b>	3.31	5.26
High-quality food	5.42	4.00	<b>5.63</b>
Convenient and comfortable accommodation	5.40	4.13	<b>5.65</b>
<b>Factor 3: Accessibility</b>	5.14	4.31	<b>5.91</b>
High cost-effectiveness	5.16	4.33	<b>5.97</b>
Easily accessed travel information	5.15	4.27	<b>5.89</b>
Convenient transportation	5.11	4.34	<b>5.88</b>
<b>Factor 4: Entertainment and Activities</b>	4.07	4.35	<b>5.75</b>
I want to watch shows	3.89	4.19	<b>5.53</b>
I want to take part in or watch sports activities	3.66	4.14	<b>5.54</b>
I want to experience the unique environment in Chinese mainland	4.19	4.44	<b>5.93</b>
I want to visit historical and cultural places of interest	4.55	4.61	<b>5.99</b>
<b>Factor 5: Attraction</b>	5.08	4.55	<b>6.13</b>
Profound history and culture	4.89	4.61	<b>6.15</b>
Attraction of scenic spots	5.05	4.59	<b>6.18</b>
Beautiful natural scenery	5.29	4.46	<b>6.04</b>



## Discussion and Conclusion

The findings in descriptive analysis perfectly echo with what and Iso-Ahola (1982) and Pearce and Lee (2005) explained. Similar to Iso-Ahola's and Pearce and Lee's findings, the most important motivations for respondents from Hong Kong and Macau to travel to Chinese mainland are mainly included in relaxation and leisure and novelty seeking factors. "I want to find my roots" is below 4 in both two contexts, which confirms that nostalgia belongs to the least important motivations. In this study, relaxation and leisure is the most important motivation factor for Hong Kong respondents, and this result is supported by multiple studies (Guillet et al., 2011; Guillet, Law & Leung, 2012; Zhang, Law & Liu, 2012).

Factor analysis for satisfaction reveals that there are two basic aspects that the tourists will look at when evaluating their experiences to the mainland of China, which are local experiences, including accommodation, dining, and transportation, as well as professional service, including travel agency service, tour guide service and APP functions. Both Hong Kong and Macau tourists interviewed are most satisfied with the accommodation and dining experiences, indicating that Chinese mainland tourism has already done a good job in creating memorable lodging experience and providing high-quality foods to the guests. But there is still improvement that can be made especially in professional services. Tourism operators should put more emphasis on the service quality provided by the travel agency and the tour guide.

One of the interesting results presented by this study is that there is no significant difference between genders on motivation, which can be a hint for tourism practitioners to minimize the devotion of differentiated marketing to males and females. Since for Hong Kong travelers, there is a significant difference in terms of the attributes examined, it is more necessary to identify diverse target segments and adopt different strategies for Hong Kong travelers, in fields such as product positioning, pricing and promotion (Zhu, 2011) to Hong Kong than to Macau.

More than 60% and 50% respondents from Hong Kong and Macau each have a bachelor's degree or above and it is found out that the more people are educated, the less they are attracted to visit China's mainland by tourism environments, including food, accommodation, hygiene, etc. Thus, travel destinations are responsible to work hard in improving environment quality, otherwise, environments may become one of the key dimensions that make the tourists unsatisfied shortly.

Some limitations should be recognized in this study. First, compared to some previous studies that had a large sample size (e.g. over 1,000 interviewees), this study is small-scale with only 516 samples in total, which may limit the generalization of the findings. This provides opportunities for future research to investigate the topic based on more respondents' profiles to see if there are any similarities and differences. Second, the discussion of motivation and satisfaction in this study is largely established on Western constructs of measurement and models, and thus may not be fully applicable to Hong Kong and Macau where Eastern or Chinese cultures are dominant. Given this, future studies can develop new methodologies or models in travel motivation and satisfaction research areas that consider Chinese cultural backgrounds.

Notwithstanding these limitations, this study was among the first attempts to discover the motivation and satisfaction of Hong Kong and Macau tourists about their travel experience to Chinese mainland and to compare the factors under demographic and socio-economic

characteristics. For future research direction, it would be interesting and meaningful to keep exploring the present topic and to provide more in-depth knowledge about the behavioral features of Hong Kong and Macau travelers to the mainland of China.

## References

- Beard, J., & Ragheb, M. (1983). Measuring leisure motivation. *Journal of Leisure Research*, 15(3), 219-228.
- Beerli, A., & Martín, J. D. (2004). Tourists' characteristics and the perceived image of tourist destinations: a quantitative analysis—a case study of Lanzarote, Spain. *Tourism management*, 25(5), 623-636.
- China Tourism Academy. (2017). China Inbound Tourism Development Annual Report 2017.
- China Tourism Academy. (2019). 2018 Tourism Economy Operations Series Report: Hong Kong, Macau and Taiwan Tourism Development.
- China Tourism Academy. (2019). *Annual Report of China Inbound Tourism Development 2019*. Retrieved from <http://www.ctaweb.org/html/2020-7/2020-7-10-15-37-58856.html>
- Chon, K. S. (1989). Understanding recreational traveler's motivation, attitude and satisfaction. *The tourist review*.
- Cole, S. T., & Scott, D. (2004). Examining the mediating role of experience quality in a model of tourist experiences. *Journal of Travel & Tourism Marketing*, 16(1), 79-90.
- Crompton, J. L. (1979). Motivations for pleasure vacation. *Annals of Tourism Research*, 6(4), 408-424.
- Guillet, B. D., Law, R., & Leung, R. (2012). Travel motivations and travel distance with temporal advance: A case study of Hong Kong pleasure travelers. *Journal of destination marketing & management*, 1(1-2), 107-117.
- Guillet, B. D., Lee, A., Law, R., & Leung, R. (2011). Factors affecting outbound tourists' destination choice: The case of Hong Kong. *Journal of Travel & Tourism Marketing*, 28(5), 556-566.
- Iso-Ahola, S. (1982). Toward a social psychological theory of tourism motivation: a rejoinder. *Annals of Tourism Research*, 9(2), 256-262.
- Klenosky, D. (2002). The “Pull” of Tourism Destinations: A Means-End Investigation. *Journal of Travel Research*, 40(4), 385-395.
- Law, R., Cheung, C., & Lo, A. (2004). The relevance of profiling travel activities for improving destination marketing strategies. *International Journal of Contemporary Hospitality Management*.
- Li, M. (2007). *Modeling the travel motivation of Mainland Chinese outbound tourists*. Purdue University.
- Macau International Airport. (2015). *Hong Kong, Macau and Taiwan markets are striving for the inbound tourism to pick up*. Retrieved from <https://www.macau-airport.com/cn/media-centre/news/news/14676>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370–396.
- McIntosh, R., & Goeldner, C. (1986). *Tourism: Principles, Practices, Philosophies* (5th ed.). New York: John Wiley.
- Meric, H. J., & Hunt, J. (1998). Ecotourists' motivational and demographic characteristics: A case of North Carolina travelers. *Journal of Travel research*, 36(4), 57-61.
- Ministry of Culture and Tourism of PRC. (2018). Retrieved from

<http://zwgk.mct.gov.cn/?classInfoId=360>

- Noe, F. P., & Uysal, M. (1997). Evaluation of outdoor recreational settings: A problem of measuring user satisfaction. *Journal of Retailing and Consumer Services*, 4(4), 223-230.
- Oliver, R. L. (1980). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of marketing research*, 17(4), 460-469.
- Oliver, R. L., & Swan, J. E. (1989). Consumer perceptions of interpersonal equity and satisfaction in transactions: a field survey approach. *Journal of marketing*, 53(2), 21-35.
- Pearce, P. (1988). *The Ulysses Factor: Evaluation Visitors in Tourist Settings*. New York: Springer-Verlag.
- Pearce, P. L., & Caltabiano, M. L. (1983). Inferring travel motivation from travelers' experiences. *Journal of travel research*, 22(2), 16-20.
- Pearce, P. L., & Lee, U.-I. (2005). Developing the Travel Career Approach to Tourist Motivation. *Journal of Travel Research*, 43(3), 226-237.
- People.cn. (2017). *Mainland and Hong Kong have become the largest tourism market for each other*. Retrieved from <http://hm.people.com.cn/n1/2017/0708/c42272-29391552.html>
- Sasser, W. E., Schlesinger, L. A., & Heskett, J. L. (1997). *Service profit chain*. Simon and Schuster.
- Schofield, P. (2000). Evaluating Castlefield Urban Heritage Park from the consumer perspective: Destination attribute importance, visitor perception, and satisfaction. *Tourism Analysis*, 5(2-3), 183-189.
- Sina News. (2017). Strengthen the concept of global tourism and deepen tourism cooperation between the Mainland and Hong Kong and Macau.
- Song, H., Van der Veen, R., Li, G., & Chen, J. L. (2012). The Hong Kong tourist satisfaction index. *Annals of Tourism Research*, 39(1), 459-479.
- Stabler, M. J. (1988). The image of destination regions: theoretical and empirical aspects. *Marketing in the tourism industry*, 1, 133-161.
- Stern, E., & Krakover, S. (1993). The formation of a composite urban image. *Geographical analysis*, 25(2), 130-146.
- Tsaur, S. H., Chiu, Y. T., & Wang, C. H. (2007). The visitors' behavioral consequences of experiential marketing: An empirical study on Taipei Zoo. *Journal of Travel & Tourism Marketing*, 21(1), 47-64.
- Tse, D. K., & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of marketing research*, 25(2), 204-212.
- Um, S., & Crompton, J. L. (1992). The roles of perceived inhibitors and facilitators in pleasure travel destination decisions. *Journal of travel research*, 30(3), 18-25.
- Wong, I. A., Xu, Y. H., Tan, X. S., & Wen, H. (2019). The boundary condition of travel satisfaction and the mediating role of destination image: The case of event tourism. *Journal of Vacation Marketing*, 25(2), 207-224.
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, 26, 45-56.
- Zhang, Z., Law, R., & Liu, T. (2012). Perceptions of travel importance, travel motivation and demographic characteristics: An empirical study based on a large-scale telephone survey with Hong Kong residents. *Tourism Science*, 5.
- Zhu, M. (2011). Examining the structural relationships of tourist characteristics and destination satisfaction. In *2010 International Conference on E-business. Management and Economics*.

## Factors influencing Muslims' willingness to visit Taiwan

Yu-Hsiang Fang, Tzu-En Wang, Yoel Christian,  
Hsiang-En Hsu, Yu-Pei Cheng, Yahui Su & Liyia Feng

**Keywords:** Muslim tourism, religious factors, non-religious factors, Taiwan

This paper aims to investigate factors influencing Muslim tourists' willingness to visit a non-Muslim country, Taiwan. As Taiwan has won the 3rd most friendly destination, according to Global Muslim Tourist Index (GMTI) 2019, knowing the reasons why Muslim tourists come to Taiwan can be helpful for the local tourism industry to develop market strategies. While religious factors are expected to be the main factors for Muslim tourists to travel, travelling for non-religious purposes also hold a certain and significant portion of the market share. A self-administered online questionnaire was developed and distributed to Muslims in April 2020. The questionnaire questions were developed based on the literature review. A total of 231 respondents participated in this study.

Based on the findings, non-religious factors have a more significant influence on Muslims' willingness to visit Taiwan. This research had identified some of the non-religious factors, such as interesting natural attractions (e.g.: Taroko National Park, Yehliu Geopark, etc.) as the most significant factor that attracts Muslims to visit Taiwan, followed by the other significant non-religious factors: the attraction of modern cities (e.g., Taipei 101, Xinyi District, etc.), and that of unique cultures (e.g., Hakka, Lantern Festival, etc.). The implication is that we could effectively promote Taiwan tourism by focusing on the non-religious aspects while Taiwan could also respect the Muslims' religious attributes by making efforts in creating the Muslim friendly environment and facilities; the religious aspects should not be neglected.

## References

- Battour, M., Ismail, M. N., & Battor, M. (2010). The Impact of Destination Attributes on Muslim Tourist's Choice, *International Journal of Tourism Research*, 13 (6), pp. 527-540.
- Cetin, G., and Dincer, M. (2016). Muslim friendly tourism (MFT): A discussion. *Journal of*

- Tourismology*, 2 (1), pp. 65-67.
- Dann, G. M. S. (1981). Tourist motivation an appraisal. *Annals of Tourism Research*, 8(2), 187-219.
- Echtner, C.M., and Ritchie, J.R. (2003). The meaning and measurement of destination image. *The Journal of Tourism Studies*, 2(2), pp. 2-12.
- Eid, R., & El-Gohary, H. (2015). Muslim tourist perceived value in the hospitality and tourism Industry. *Journal of Travel Research*, 54(6), pp. 774–787.
- Eid, R. (2013). Integrating Muslim customer perceived value, satisfaction, loyalty and retention in the tourism industry: An empirical study. *International Journal of Tourism Research*, 17(3), pp. 249-260.
- Hunt, J. D. (1975). Image as a factor in tourism development. *Journal of Travel Research*, 13(3), pp. 1-7.
- Kim, S.-S., & Lee, C.-K. (2002). Push and pull relationships. *Annals of Tourism Research*, 29(1), 257-260.
- Mansfeld, Y. (1992). From motivation to actual travel. *Annals of Tourism. Research*, 19, 399-419.
- Scott, N., & Jafari, J. (Eds.) (2010). *Tourism in the Muslim world*. Bingley, UK: Emerald.
- Weidenfeld, A. and Ron, A. (2008) Religious needs in the Tourism industry. *Anatolia*, 19(2), pp. 357-361.

# **Does China has the potential to become a wine tourism destination in perspectives of Hong Kong, Macau and Taiwan regions of China?**

*Lai Yin Cheung & Kam Ho Manson Chung*

## **Abstract**

Research on investigating tourists' perceptions on China's wine tourism is crucial in promoting its wine tourism development and attract tourists from gastronomy domain. However, there is a paucity of research to study tourists from other regions near China and its potential in becoming a wine tourism destination.

The purpose of this research was to explore tourists' perceptions from Hong Kong, Macau, and Taiwan regions towards China's wine tourism and major wine tourism activities they pursue in China by means of an online survey.

This research found that male tourists, Macau and Taiwan tourists perceived more positive on China's wine tourism development because of lifestyle and customer behaviour. The results gave some suggestions and direction to its wine tourism development. Further studies on other countries are also needed in promoting its development.

**Keywords:** Western Wine in China, Western Wine Making, Wine Tourism in China, Wine Tourism Products, Gastronomy Tourism, Infrastructures for Wine Tourism

## **Introduction**

According to Zhang et al. (2013), China has a long history of grape growing and winemaking which has been recognized around the world since the 1990s. For example, China produced brandy at the beginning of the 1990s to fulfil the desire of foreign liquors (Zhang et al., 2013).

In 2018, China became the second-largest vineyards in which more than 900 million litres of grape wine were produced (Duncan, 2020). By collaborating with foreign countries, China can gain winemaking knowledge from foreign countries; recognition of Chinese wine will also increase around the world.

There are several reasons which lead to western wine in China becoming more important in the

present day. First, the Chinese drinking culture is changing. In the old days, the Chinese drank for social and business purposes. However, nowadays the Chinese also drink to relax and indulge themselves (Chan, 2020). Second, the Chinese are gaining interest and having more preferences in western wine. For example, red wine is gaining popularity in China, more people try to search for a red wine such as the French red wine, followed by other New World Wine such as red wines from the United States, Australia (Thibaud, 2019).

### ***Title of the Study***

A study will be conducted based on wine tourism in China. The title of the study is: Does China has the potential to become a wine tourism destination from the tourist perspectives of Hong Kong, Macau and Taiwan regions of China?

### ***Research Gap***

Similar research has been done to investigate the wine tourism industry development in China. For example, the research, “Wine tourism phenomena in China: An emerging market” conducted by Qiu, Yuan, Ye, and Hung in 2013. The study aims to find out factors influencing wine tourism development in China.

However, the research did not cover tourists in other regions near China, there are also limited researches on investigating the potential of China in becoming a wine tourism destination. The intention of this study is attempting to fill the gap.

### ***Objectives of the Study***

There are four objectives for this study:

- To understand the current development of wine tourism in China.
- To explore the major wine tourism activity tourists pursue in China.
- To find out tourists’ perceptions of wine tourism products and infrastructures for wine tourism in China by gender.
- To study the uniqueness of China in developing wine tourism perceived by tourists from various regions.

### **Significance**

Recently, New World Wine countries’ wine industries are developing rapidly which increase

competition among them. By conducting research on respondents' perception of China in becoming a wine tourism destination, it may give some insights to wine companies in China to position their wine tourism products and wine production in the market from the results obtained from the questionnaires.

## **Literature Review**

### ***What is Wine***

According to the Council of the European Union (2008), wine is a product obtained from a partial or totally alcoholic fermentation on fresh grapes or simply from grape must. The alcoholic strength of the wine shall not be less than 8.5% vol. in which grapes harvested from some specific wine-growing zones such as Germany, wine-growing regions in Denmark, Poland, the United States. The total alcoholic strength of wine shall not more than 15% vol.

### ***Wine in China***

There are several types of wine that can be found in China. For example, Baijiu, Kaoliang wine, Huangjiu (yellow wine), and Ningxia wines. Different from western wine which made by the fermentation of grapes, most of the wine in China is made of rice, mead, sorghum. Nowadays, western wine such as Chardonnay, Pinot Noir, and Cabernet Sauvignon can be found in China (Hays, 2015).

### ***History of Western Wine Making in China***

According to Hays (2015), the earliest winemaking in China was in 7000 B.C., which produced fermented drinks made with honey, grapes, or hawthorn fruit and rice. Grape wine making was found in the Tang dynasty. In 1892, the first winery was built in Yantai which is now the largest winemaker in China, Changyu. When the winery was started, an Austrian consultant was hired as a chief winemaker. Nowadays in China, most wineries use western winemaking techniques to make dry wines.

### ***What is Wine Tourism***

Wine tourism is “visiting vineyards, wineries, joining wine festivals as well as wine shows, wine tasting. These can act as a motivation for visitors to come” (Hall et al., 2000). Terziyska (2018)



also mentioned that people will see wineries and the wine country as a whole, also a form of destination development to increase revenues and image.

### ***Global Wine Tourism***

Nowadays people who go for wine tourism are motivated by various types of wine tourism activities. For example, Kevany (2018) introduced La Cité du Vin in Bordeaux which opened in 2016, tourists can join the visual “helicopter” tour to visit different winemaking regions and vineyards. It also provides wine pairing with chocolate workshops. In addition, there are many common types of wine tours such as “Wine & Culture tours”, “Wine & Food tours”, other types of wine tours are also gaining popularity like “Adventure wine tours” which combine sports and wine tasting together Terziyska (2018).

### ***Wine Tourism in China***

More wine tourism activities are offered to tourists under the rapid development China’s wine industry. For example, Mayshark (2018) stated that The Great Wall of China in Beijing gives the English language blog of the Chinese wine industry and holds events like “The China Wine Tour” which includes the visitation to bars and Chinese wine tasting. Tourists can also join the wine tour in China’s wine production regions such as Sichuan, Tianjin, Xinjiang, etc. Another example is the “Private Changyu Chateau Wine Tasting Tour”. Tourists can enjoy the wine tasting workshop and visit the wine country in Miyun County (Viator, n.d.). Fuelled with development momentum in China, the Chinese government also puts more resources into wine tourism infrastructure building. For example, Ningxia is one of the most popular wine production regions in China. Since it can produce high quality of western wine, the government gives lots of support in building infrastructures such as training systems, seedling introduction, water and power utilities (Li, n.d.)

### ***Latest Trend of Wine Production and Consumption***

#### ***Global***

Canned wines have become the latest trend recently which millennial drinkers are one of the driving forces. Apart from the convenience of canned wines, they are also more environmentally friendly than glass bottles based on their level of recyclability (Burrell, 2019). European countries are also trying to move the vineyards to the northeast of China because of its favorable climate

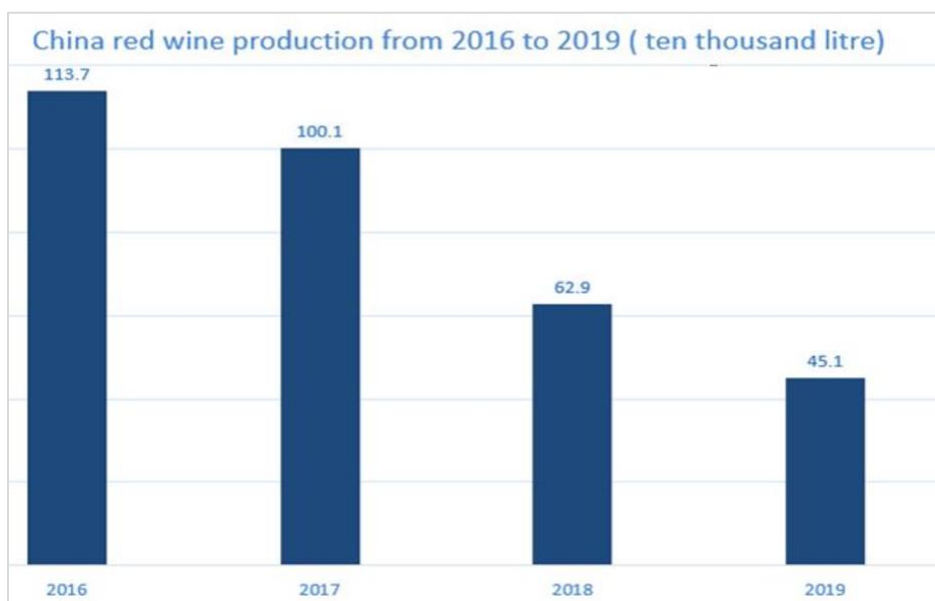
caused by climate change and agriculture areas' size (Kan, 2019).

By wine consumption of global consumers. As stated by Burrell (2019), people are more health-conscious in recent years, alcohol-free, low alcohol, and vegan wine become one of the popular wine choices among them.

### ***China***

As shown in Figure 1, red wine production in China is declining in recent years. This mainly caused by the increase of imported wines to China (Andre, 2020). According to Andre (2020), under the new tax policy in China, customers buy more imported red wine from the retailers which gained benefits from the “Zero tariff” policy such as Australia, Chile, and New Zealand.

Chinese drinkers' consumption of wine and drinking habits are changing. According to Daxue Consulting (2020), female and young drinkers are the new market who are gaining interest in wine, middle-class drinkers who have high purchasing power are willing to buy and pay for a better quality of wine. In addition, red wine become the most popular types of wine among the Chinese drinkers because of Chinese cultural traditions and red wine's health benefits on human (Daxue Consulting, 2020). Daxue Consulting (2020) also stated that Chinese consumers will gain interest in white wine in the future because of the widespread of western lifestyle culture.



*Figure 1. China Red Wine Production (Daxue Consulting, 2020)*

### ***Tourists' Perception on Wine Tourism Destination Selection***

There are several factors affecting tourists' wine tourism destination selection. According to Jovanovic-Toncev et al., (2016, p.785-786), internal factors push tourists to a particular wine tourism destination are mainly related to winery tours which may offer wine tasting and food pairing, enjoy the surrounding natural environment as well as learn more on the wine production process. On the other hand, as mentioned by Popp (2013, p.20), infrastructures, wine routes which are known as tourist trails connect with wineries and vineyards can also affect tourists' selection of wine tourism destinations as they are attractive enough to them. They can be enhanced by natural attractions like mountains, roads, signposts which help to guide and direct tourists to their own wine route (Popp, 2013, p.20).

### ***Research Variables***

This study aims to find out the uniqueness of China in becoming a wine tourism destination. Therefore, it will adopt the "Wine Production Product in China", "Infrastructure for Wine Tourism in China" and "Uniqueness of China in becoming a wine tourism destination" as the independent variables for the study which will include in-depth questions. These variables are important in the research as they can be one of the suggestions towards China's wine tourism development after analysing respondents' opinions and thoughts on these areas.

## **Methodology**

### ***Research Methods***

Quantitative research will be adopted for this research. Every step is standardized which helps to reduce bias during the data collection and enhance the reliability and generalisability of the results (Dowd, 2019).

The research will cover tourists from Hong Kong, Macau, and Taiwan regions. Therefore, an online questionnaire will be used as it can cover a wide range of respondents and gives a valid and representative result by overcoming the geographical constraints (Singh and Bajpai, 2017). It also helps to increase the convenience of the research.

Snowball sampling will be used to reach the potential respondents from Macau and Taiwan by

using Macau and Taiwanese respondents' social connections in which other methods may lacking of. It is also a cost and time-effective method as workforce and planning is not required much during the data collection process (Explorable, n.d.). The main requirement for this method is to set up the questions before sending it to the potential participants (Devkota, n.d.).

### ***Data Collection***

To fully answer the objectives of the study, two data collections were carried out. The first collection focused on the current development and uniqueness of wine tourism in China; the second one aimed to find out tourists from Hong Kong, Macau and Taiwan regions' perception and opinions on China in becoming a wine tourism destination.

Research on tourists from Hong Kong, Macau and Taiwan regions was conducted by sending online questionnaires within 3 weeks due to limited time on research process and Covide-19 situation which affect the regular data collection process and face-to-face contact with respondents. The study included 120 respondents from Hong Kong, Macau and Taiwan by using social connection and snowball sampling method. Among the total number, 120 valid responses were received.

### ***Questionnaire Design***

English and Chinese will be used in the questionnaire. Since this research will cover three regions, the bilingual questionnaire helps to get more accurate data as respondents can understand and read the questions in their preferred language.

Besides, the questionnaire will be divided into two sections. The first section will focus on respondents' wine tourism experiences and their perception of China in becoming a wine tourism destination. The second section of the questionnaire will collect respondents' personal information such as gender, monthly income, nationality, etc.

### ***Data Analysis Method***

When processing the collected data, SPSS (Statistical Package for the Social Sciences) will be used. This study will mainly use descriptive analysis (to explore the major types of wine tourism

activity tourist join), T-test (to compare the perception of factors affecting China in becoming a wine destination by gender), and ANOVA (to examine the perception of the uniqueness of China in becoming a wine destination by regions).

## Results

### *Profile of the respondents*

Table 1 shows the demographic characteristics of respondents. Most respondents are the age between 18 - 27 years old (n=68, 56.7%) while 25.8% and 17.5% are respondents of the age between 28 - 36 (n=31) and 37 - 55 (n=21) respectively. There are 50.8% of respondents are male (n=61) and 49.2% are female (n=59). For the region, most respondents are from Hong Kong (n=58, 46.7%) while Macau and Taiwan got the same number of respondents (n=32, 26.7%).

For the education level, most respondents are in bachelor's degree (n=78, 65%) and doctoral degree got the least number of respondents (n=1, 0.8%). Respondents with high school/associate degree (n=25) and master degree (n=16) contributed 20.8% and 13.3% respectively. For the occupation of respondents, those who are employed (n=75, 62.5%) got the highest percentage among 120 respondents. There are 20%, 10% and 7.5% for unemployed (n=24), part-time (n=12) and self-employed (n=9) respondents respectively. Last, for respondents' income per month, most respondents earned between HK\$10001 to HK\$20000 (n=49, 40.8%) while only 11 respondents earn HK\$30000 or above (n=11, 9.2%).

Regarding to the sample size of the demographic characteristics, especially gender. It is believed that the standard deviation of male and female are normally distributed. As a result, even there are 2 sample differences between male and female sample, the skewed data will not affect the results.

**Table 1:** Demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Age:		
18 - 27	68	56.70%
28 - 36	31	25.80%
37 - 55	21	17.50%

Above 55	0	0.00%	
Gender:			
Male	61	50.80%	
Female	59	49.20%	
Region:			
Hong Kong	58	46.70%	
Macau	32	26.70%	
Taiwan	32	26.70%	
Education Level			
High School / Associate Degree	25	20.80%	
Bachelor's Degree	78	65.00%	
Master Degree	16	13.30%	
Doctoral Degree	1		0.80%
Occupation:			
Self-employed	9	7.50%	
Employed	75	62.50%	
Part-time	12	10.00%	
Unemployed	24	20.00%	
Retired	0		0.00%
Income/Month:			
Below HK\$10000	33	27.50%	
HK\$10001 - HK\$20000	49	40.80%	
HK\$20001 - HK\$30000	27	22.50%	
HK\$30001 or above	11	9.20%	

---

### ***Major Wine Tourism Activities in China***

Table 2 presents the major wine tourism activities that tourists from Hong Kong, Macau, and Taiwan join in China. The most popular wine tourism activity they join is winery tours (n=34, 31.78%). The second most popular wine tourism activity is wine tasting (n=25, 23.36%). The least popular wine tourism activity is joining wine and food pairing activity (n= 14, 13.08%) which is 20 less than those joining winery tours.

**Table 2:** Wine Tourism Activities in China

Wine Tourism Activity	Frequency	Percentage (%)
Wine Festivals	16	14.95%
Wine Tasting	25	23.36%
Wine and Food Pairing	14	13.08%
Visit Vineyards	18	16.82%
Winery Tours	34	31.78%
Total	107	100%

### *Independent-sampled t-test results*

#### *Wine Tourism Products in China*

The mean difference in wine tourism products in China by gender is presented in Table 3. There are mean differences in tourists' perceptions of the great variety of wine tourism products by gender ( $t\text{-value} = 4.85, p < 0.01$ ). Male tourists ( $\text{mean}=3.54$ ) have a more positive perception of the great variety of wine tourism products in China than female tourists ( $\text{mean}=2.71$ ). Male tourists ( $\text{mean}=3.48$ ) also perceive more positive on wine tourism products can give educational experience ( $t\text{-value} = 3.26, p < 0.01$ ) than female tourists ( $\text{mean}=2.90$ ). For the mean difference in the contribution of wineries that help to provide better wine tourism products by gender ( $t\text{-value} = 3.20, p < 0.05$ ). Male tourists ( $\text{mean}=4.03$ ) are more positive compared to female tourists ( $\text{mean}=3.49$ ).

**Table 3:** Comparison of Means for Wine Tourism Products in China by Gender

Wine tourism Products	Male		Female		t-value	p	Comparison
	Mean	SD	Mean	SD			
Great variety of wine tourism products	3.54	0.94	2.71	0.92	4.85	0.00**	M > F
Wine tourism products can give educational experience	3.48	1.02	2.90	0.90	3.26	0.01**	M > F
Contributions of wineries help to provide better wine tourism products	4.03	0.85	3.49	0.98	3.20	0.02*	M > F

\*  $p < 0.05$ , \*\*  $p < 0.01$

### ***Infrastructures for Wine Tourism in China***

Table 4 shows the mean difference in infrastructures for wine tourism in China (t-value = 4.04,  $p < 0.01$ ) by gender. There are mean differences in tourists' perceptions of the massive transportation system in China by gender. Male tourists (mean=3.80) perceive more positive than female tourists on transportation system in China (mean=3.05). There are also mean differences in the perfect infrastructures in China's wine production (t-value = 3.52,  $p < 0.01$ ). Male tourists (mean=3.49) have more positive perceptions compared with female tourists (mean 2.86).

**Table 4:** Comparison of Means for Infrastructures for Wine Tourism in China by Gender

Infrastructures	Male		Female		t-value	p	Comparison
	Mean	SD	Mean	SD			
Perfect in wine production	3.49	1.09	2.86	0.84	3.52	0.00**	infrastructures M > F regions
Sufficient hotels and restaurants near wineries	2.75	0.99	2.95	0.91	-	1.11	0.26
Massive transportation system	3.80	1.09	3.05	0.93	4.04	0.00**	M > F

\*  $p < 0.05$ , \*\*  $p < 0.01$

### ***ANOVA result of uniqueness of wine tourism in China***

Table 5 explains the mean differences in the uniqueness of wine tourism in China by regions. First, there are mean differences in tourists' perceptions of a wide range of wine tourism products and services in China by regions (F-ratio = 10.70,  $p < 0.01$ ). Tourists in Macau (mean=3.50) and Taiwan (mean=3.56) perceive more positive compared to tourists in Hong Kong (mean=2.71). Second, the mean differences in tourists' perceptions of a large number of wine production regions in China (F-ratio = 9.31,  $p < 0.01$ ). Tourists in Macau (mean=3.56) and Taiwan (mean=3.41) perceive more positive compared to tourists in Hong Kong (mean=2.73).



Third, there are mean differences in tourists' perceptions of a large number of wine tourism attractions in China (F-ratio = 9.00,  $p < 0.01$ ). Tourists in Macau (mean=3.22) and Taiwan (mean=3.44) perceive more positive compared to tourists in Hong Kong (mean=2.59). Furthermore, there are mean differences in tourists' perceptions of rapid development in wine tourism (F-ratio = 5.53,  $p < 0.01$ ). Tourists in Macau (mean=3.53) and Taiwan (mean=3.47) perceive more positive compared to tourists in Hong Kong (mean=2.93). Last, for mean differences in tourists' perceptions of long history in Western wine production (F-ratio = 4.08,  $p < 0.01$ ). Tourists in Macau (mean=2.91) perceive more positive compared to tourists in Hong Kong (mean=2.36).

**Table 5:** ANOVA Tests on the uniqueness of wine tourism in China

Uniqueness	Means by Region			F-ratio	ANOVA (Sig. Value)	Comparison
	Hong Kong (1)	Macau (2)	Taiwan (3)			
Long history in Western wine production	2.36*	2.91*	2.78	4.08	0.01**	*2 > 1
Rapid development > in wine tourism	2.93*,**	3.53*	3.47**	5.53	0.00**	*2 > 1, **3 1
A lot of wine > production regions	2.73*,**	3.56*	3.41**	9.31	0.00**	*2 > 1, **3 1
A lot of wine > tourism attractions	2.59*,**	3.22*	3.44**	9.00	0.00**	*2 > 1, **3 1
Wide range of wine tourism products **3 > 1 and services	2.71*,**	3.50*	3.56**	10.70	0.00**	*2 > 1,

\*  $p < 0.05$ , \*\*  $p < 0.01$

## **Discussion and Conclusion**

### ***Discussion and implications***

#### ***Discussions on the independent-sampled t-test results***

The independent-sampled t-test results show that male tourists perceived more positive on the wine tourism products and infrastructures in China. These can be explained by the lifestyle and consumer behaviour of male and female tourists towards wine tourism. Since wine tourism is gaining popularity around the world, it is observed that males have more interest and sensation towards wine tourism than females (Galloway et al, 2008). Research done by Asero and Patti (2011) shows that males tend to have more interest in wine tourism experience than females such as winery visitation. When choosing wine, male is also relied on external validation such as wine's brand, expert validation and provenance in which female will not focus on (Wine Intelligence, 2018). On the other hand, according to Wine Intelligence's multimarket report in 2018, it also mentioned that male is tend to spend more money on wine than women and they tend to drink more in formal events. A study done by Mitchell and Hall (2001) indicated that males have more interest in wine tourism than females by using different wine tourism indicators such as wine knowledge, wine activities participation, and purchase of wine. Results of this study resonated with some the previous related studies.

#### ***Discussion on ANOVA test results***

Based on respondents' profiles, it is observed that there are sample differences before doing comparisons by using different data analysis method such as ANOVA test. By using ANOVA test, it helps to find out whether the results and which groups are significant. In this research, it is found that most of the groups are significant, this indicated that the sample differences like the number of respondents in the three regions will not affect the ANOVA results.

It is found that the tourists in these three regions are less positive on China's long history in Western wine production as the uniqueness of China in becoming a wine tourism destination. This may be due to the lack of promotions in China's wine production regions. Besides, China has long been famous for its indigenous libations, e.g. yellow wine, etc., tourists do not know much about Western wine production regions in China and their own uniqueness as well as the wine they

produced. The unequal allocation of resources in wine production regions may also lead to this result. Since there are a lot of wine production regions in China as shown in Figure 2 (Li, n.d.), there are only a few of them are well-developed. For example, Ningxia is one of the famous and well-developed wine regions in China under the government support, it can produce high quality of western wines which are comparable with other western wine making countries like France.

It also observed that respondents from Hong Kong are less positive than respondents in Macau and Taiwan which may affected by their lifestyle and own perceptions. Most of the tourists in Hong Kong like to join wine tourism activities in Western countries such as visiting wineries and vineyards in France. Their perception of different areas like food culture which may influenced by Western culture may also affect the results. Some of them may think that only Western countries can produce high-quality wine as they have longer authentic viticulture and advanced vinification techniques.

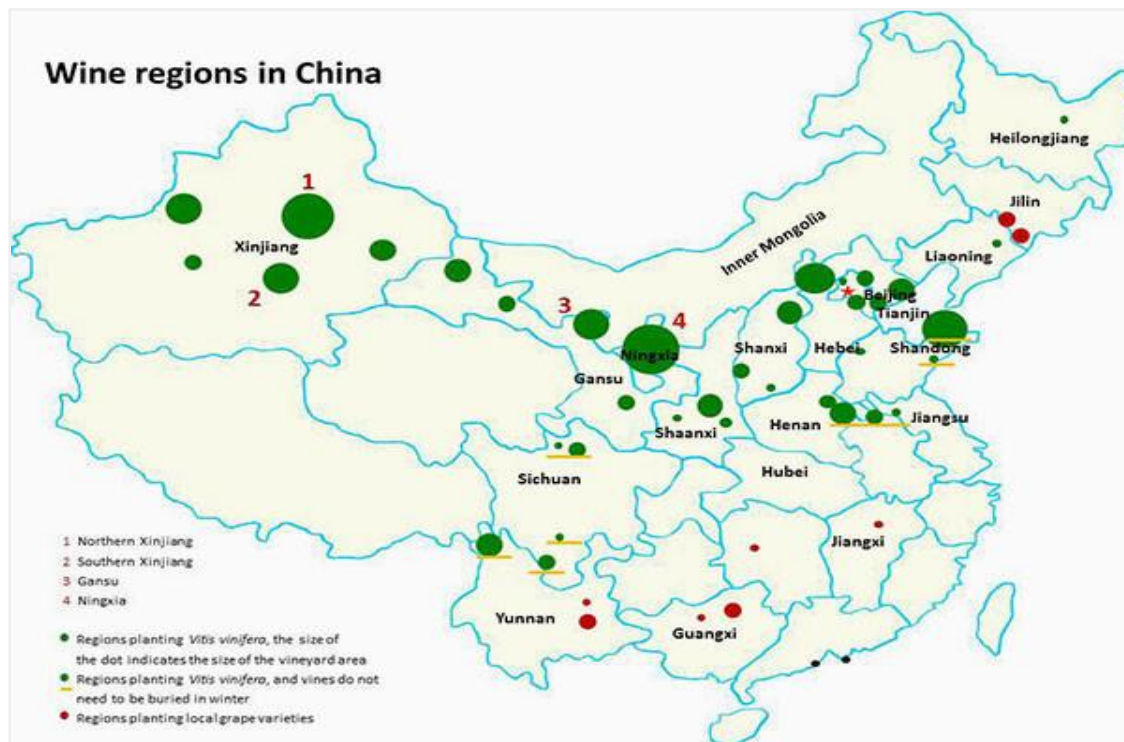


Figure 2. Wine Regions in China

## Conclusion

Wine tourism development in China highlights the needs of research on tourists from other regions.

This is important if the Chinese government wishes to increase the awareness of wine tourism and differentiate itself around the world. This research represents an improvement in China's wine tourism research. The findings are focusing on Hong Kong, Macau, and Taiwan tourists towards some major wine tourism elements such as wine tourism products and infrastructures for wine tourism development. Meanwhile, similar types of research could be in other countries or regions for further investigation.

The results of this research show tourists' perceptions of China's wine tourism and provide an opportunity for China in developing a better wine tourism experience for tourists. In this research, most of the respondents have not joined any wine tourism activity in China (Figure 3) and half of the respondents agree that China has the potential in becoming a wine tourism destination (Figure 4). On the other hand, male tourists perceived more positive towards China's wine tourism products and infrastructures while Macau, and Taiwan tourists perceived more positive on the uniqueness of China in becoming a wine tourism destination based on their lifestyle and consumer behaviour.

#### **Participation of wine tourism activity in China**

Participation	Frequency	Percentage (%)
Yes	46	38.30%
No	74	61.70%

*Figure 3. Participation of wine tourism activity in China*

#### **Perception towards the potential of China in becoming a wine tourism destination**

Perception	Frequency	Percentage (%)
Strongly Disagree	9	7.50%
Disagree	24	20.00%
Neutral	24	20.00%
Agree	60	50.00%
Strongly Agree	3	2.50%

*Figure 4. Perception towards the potential of China in becoming a wine tourism destination*

## Recommendation

The results reflect that the current development of wine tourism in China may not successfully fulfil all the needs of tourists. For example, Figure 5 showed that the majority of respondents thought that there are insufficient hotels and restaurants are built near wineries. Some famous wineries and vineyards like Grace Vineyard, are located far from cities which makes tourists spend more time on transportation. Besides, China's wine tourism still cannot draw much attention from tourists. Tourists did not have high perceptions of China's Western wine production; they did not think that China's long history in Western wine production is the uniqueness of becoming a wine tourism destination.

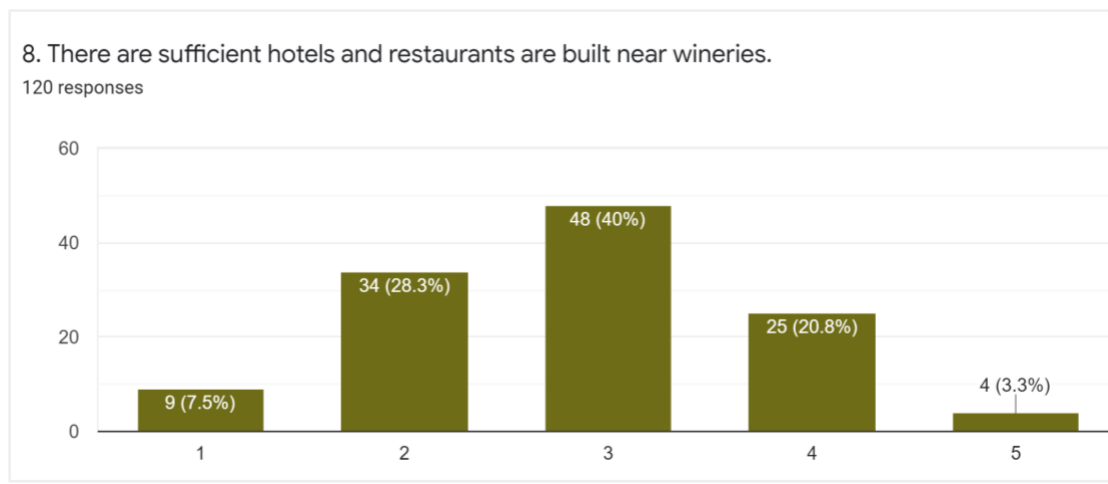


Figure 5. Responses of Infrastructures in China

In fact, China has put resources in wine production regions like Ningxia. It is suggested that the Chinese government can allocate more resources to other wine production regions such as Hebei, Shanxi which can also produce high-quality wine (Yung, n.d.). These resources can help in improving infrastructures like building more hotels and restaurants near wineries and vineyards, training systems for wine production, etc.

As shown in Figure 6, there are many wine production regions in China and they have their own characteristics which helps to develop and make their own vine grapes. Apart from these regions, it also suggested that the Chinese government can allocate resources in China's north to develop their own wine grape from vitis family. Since climate change is getting serious in recent years, this give opportunities to the north as well as the north-eastern part of China such as Heilongjiang Province where have dry summers and extremely cold winters which shown in Figure 7 (Mitchell,

2020). In fact, long warm summer and rainy winter are the best climate condition for vine growing as they can have sufficient time, sunlight, and water to grow (EVineyard, 2019). Climate change may bring a positive impact on China's north as its low temperature and frost period are lessen (Kan, 2019). The above suggestions can gain more attention from global wine tourists especially male oenophiles, increase China's competitiveness and help to differentiate itself from the old-world wine countries such as France and Italy.



Figure 6. Wine Production Regions in China (Yung, n.d.)

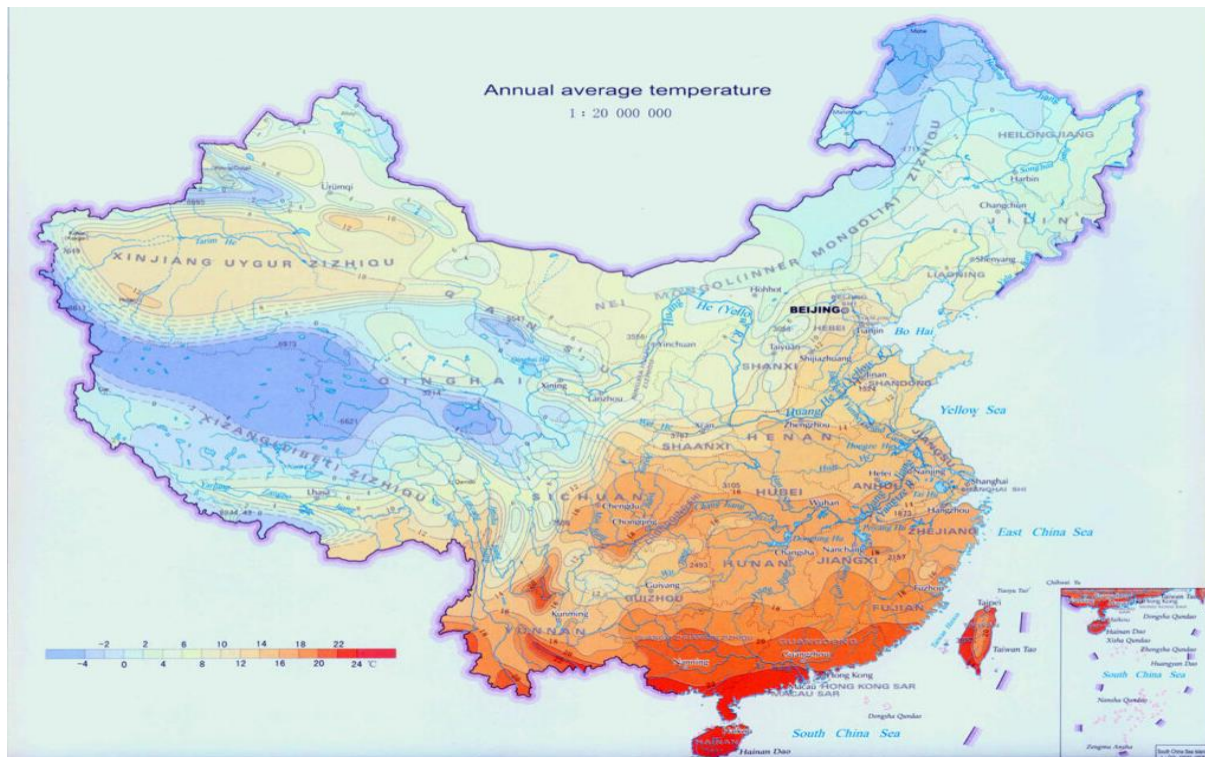


Figure 7. Annual Average Temperature in China (Mitchell, 2020)

After allocation of resources, increasing the awareness of these regions is also important. In addition to using social media, competitions, wine tour packages with contributions on wineries and vineyards in the developing wine production regions can give the same affect. Some travel agents offer China wine tasting tours that bring tourists to visit wineries and vineyards. For example, Laurus Travel offers wine tours in visiting vineyards in Yinchuan (Laurus Travel, n.d.). Easy Tour China also offers wine tasting tours to Beijing, Taiyuan, etc. (Easy Tour China, n.d.).

### ***Limitation of this study***

Since this research only focuses on Hong Kong, Macau, and Taiwan regions, there is insufficient researches examining wine tourism in China by finding out tourists' perspectives from other Asia or Western countries. Apart from doing research in understanding the current wine tourism development in China. It can also conduct research on tourists from other Asia and Western countries to find out their perspectives towards wine tourism in China by using different survey methods such as interviews. This helps to give a better understanding of their feelings on wine tourism in China, it also gives a clear path and guidance to China when developing wine tourism.

## References

- Andre, T. (2020, February 8). *China is the new biggest market for red wine*.  
<https://daxueconsulting.com/china-is-the-new-biggest-market-for-red-wine/>
- Asero, V., & Patti, S. (2011). *Wine Tourism Experience and Consumer Behavior: The Case of Sicily*. *Tourism Analysis*, 16(4), 431–442. doi: 10.3727/108354211x13149079788936
- Burrell, H. (2019, May 24). *Top five global wine industry trends of 2019*.  
<https://www.foodbev.com/news/top-5-wine-trends-of-2019/>
- Chan, D. M. (2020, February 18). *China's drinking culture is changing*.  
<https://asiatimes.com/2019/07/chinas-drinking-culture-is-changing/>
- Council of the European Union. (2008). *Council Regulation (EC) No 479/2008*. Official Journal of the European Union
- Daxue Consulting. (2020, February 18). *China's conquest of wine: Evolving wine drinking habits in China*. <https://daxueconsulting.com/trend-of-wine-drinking-habits-in-china/>
- Devkota, B. R. (n.d.). *Snowball Sampling*. <https://www.mathstopia.net/sampling/snowball-sampling>
- Dowd, M. (2019, January 10). *Advantages & Disadvantages of Qualitative & Quantitative Research*. <https://www.theclassroom.com/advantages-disadvantages-of-qualitative-quantitative-research-12082716.html>
- Duncan, E. (2020, March 22). *Wine industry in China*.  
<https://www.statista.com/topics/5036/wine-industry-in-china/>
- Easy Tour China. (n.d.). *Chinese Wine Tasting Tour*. <https://www.easytourchina.com/tour-c437-china-wine-tours>
- EVineyard. (2019, January 17). *Climate, weather, and vineyard management*.  
<https://www.evineyardapp.com/blog/2019/01/17/climate-weather-and-vineyard-management/>
- Explorable. (n.d.). *Snowball Sampling - Chain Referral Sampling*.



<https://explorable.com/snowball-sampling>

Galloway, G., Mitchell, R., Getz, D., Crouch, G., & Ong, B. (2008). Sensation seeking and the prediction of attitudes and behaviours of wine tourists. *Tourism Management*, 29(5), 950-966.

Hall, C. M., Sharples, L., Cambourne, B., & Macionis, N. (2000). Wine tourism in New Zealand. In *Wine tourism around the world: Development, management, and markets* (pp. 150-176). Elsevier Butterworth-Heinemann.

Jovanovic-Toncev, M., Jovanovic, D., Malicanin, M., & Dimitrijevic, B. (2016). Push and pull factors determining wine tourism development in the 'Tri Morave' sub region. *Ekonomika poljoprivrede*, 63(3), 785-786. <https://doi.org/10.5937/ekopolj1603781j>

Kan, K. (2019, January 20). *Climate change is turning China into wine country*.  
<https://www.eco-business.com/news/climate-change-is-turning-china-into-wine-country/>

Kevany, S. (2018, June 13). *Top 10 things to see and do at La Cité du Vin*.  
<https://www.decanter.com/wine-travel/france/top-10-things-to-see-and-do-at-la-cite-du-vin-393197/>

Laurus Travel. (n.d.). *China Wine Tours with Fine Food: Chinese Vineyards & Wineries*.  
<https://laurustravel.com/asia/trips/china-tours/china-wine-tours/>

Li, D. (n.d.). *Chinese Wine Regions*. <https://www.decanterchina.com/en/regions/china/>

Mayshark, L. (2018, January 8). *An Introduction to Wine Travel in China*.  
<https://sublimechina.com/introduction-wine-travel-china/>

Mitchell, D. (2020, March 17). *China Weather, Climate and Geography + 10 Tips about China's Weather*. <https://www.workandliveinchina.com/weather-in-china/>

Mitchell, R. D., & Hall, C. M. (2001). Lifestyle behaviour of New Zealand winery visitors: wine club activities, wine cellars and place of purchase. *International Journal of Wine Marketing*, 13(3), 82-93.

Singh, Y. K., & Bajpai, R. P. (2017). *Research methodology*, pp. 176. New Delhi: A.P.H. Publishing Corporation.

- Terziyska, I. (2018). Wine Tour Design – Global Trends And Local Expressions. *Tourism and Hospitality Management*, 24(2), 387–392. doi: 10.20867/thm.24.2.8
- Thibaud. (2019, October 9). *Understanding drinking culture in China*.  
<https://daxueconsulting.com/understand-drinking-culture-china/>
- Popp, L. (2013). *Understanding The Push And Pull Motivations And Itinerary Patterns Of Wine Tourists*, 20.
- Viator. (n.d.). *5-Hour Private Changyu Chateau Wine Tasting Tour from Beijing*.  
<https://www.viator.com/tours/Beijing/5-Hour-Private-Changyu-Chateau-Wine-Tasting-Tour-from-Beijing/d321-7309P85>
- Wine Intelligence. (2018). *Wine Consumption and Gender: Do women and men approach wine differently?*
- Yung, A. (n.d.). *6 Chinese Wine Regions You Need To Know About*.  
<https://explore.flyingwinemaker.com.hk/wine-education/asian-wines/6-chinese-wine-regions-you-need-to-know-about>
- Zhang, H., Yuan, J., Ye, H., & Hung, K. (2013). Wine tourism phenomena in China: An emerging market. *International Journal of Contemporary Hospitality Management*, 25(7). <https://doi.org/10.1108/ijchm-06-2012-0087>

# The influence of travel motivations of homosexual travellers on pink destination development in Hong Kong

Lucas Ka Ho Lee & Ken Kang-lin Peng

## Abstract

**Purpose** - This study aims at assessing capabilities of Hong Kong as the Lesbian, Gay, Bisexual, Transgender (LGBT) tourism destination due to the rising extrinsic and intrinsic values of homosexual travellers.

**Methodology**- The self-administered survey has designed to solicit 120 samples of homosexual groups by snowball sampling. Both One-way ANOVA and linear regression analysis have applied to analyse the correlation of motivational factors and destination attributes on visit intention that were generalised from the existing literature and explanatory hypothesis.

**Findings**- The findings reveal that “*Escapism with anonymity*”, “*identity affirmation*”, and “*social acceptance*” are the push factors behind the travel motivations of homosexual groups. While the “*industry support*” and “*pink-tourism products*” are also aligning the pull factors that were attracting homosexual travellers with its ideal value-propositions.

**Implications and research limitations** - Both government and industry leaders should develop behavioural buy-in regarding sexual diversity into social and industry practices. Meanwhile, the validity of the findings may subject to the removal of the “gay-place” variable due to the “Dummy Variables Trap”

**Keywords:** LGBT, Sexual diversity, Destination planning and development, Push and Pull model, Pink destination value chain model

## Introduction

Sexual diversity has been risen attention globally, the concept of Lesbian, Gay, Bisexual, and Transgender (LGBT) is relatively recent to the hospitality and tourism industry. This particular segment becomes significantly valuable since their constant changing characteristics in terms of social behaviours, buying powers, and travel patterns have formulated a robust market force in the global context namely – *Pink economy* (Badgett et al., 2014). The overview report of LGBT Capital (2018) revealed the overall estimated spending of LGBT segment had reached US\$1.8 trillion globally, while such segment valued US\$3.8 billion in Hong Kong market with 1.11% of approximate implied percentage in GDP. Given the considerable amount of *Pink money* contributed by LGBT travellers during social events (e.g. pink parade) and their journey outside their usual environment, there appears the necessity of further research to study travel motivations of the homosexual travellers to customise a market strategy for targeting such a niche segment.

Despite with the attractiveness of its extrinsic side, the progress of pink tourism development in Hong Kong remains stagnant due to the recognition of the same-sex marriage issue as well as the lack of supports from the local government (Yu & Leung, 2017). This phenomenon unveils the lack of visibility of the LGBT market has caused the estrangement of the industry players towards the homosexual group; while Hong Kong as an international tourist destination in the Asia-Pacific region, the openness towards homosexual travellers is a cornerstone to consolidate Hong Kong's

intrinsic image as a diverse city values equality. In such sense, the research justifies the importance of a welcoming environment for all segments will be beneficial to not only the industry but also the destination as a whole.

The study aims to identify critical success factors (CSFs) of an LGBT-friendly destination based on the psychological characteristics and uniqueness of each sub-segment. Both explanatory and exploratory evidence was presented to investigate how the Destination Marketing Organisation (DMO) to cater to the demand of the homosexual group. Therefore, the focus of the research is threefold.:

- I) To compare the major motivations to travel between homosexual groups
- II) To examine the correlation between homosexual travellers' motivations and visit intention
- III) To analyse the perceived importance of destination attributes towards an LGBT friendly destination

## **Literature Review**

### **Understanding homosexual travellers**

#### Psychological aspect

Lubowiecki-Vikuk (2016) highlighted studying psychological characteristics of individual travellers substantiates the blueprint between personal motives and wherefore their decision-making in destination selection. Further to the argument from Vorobjovas-Pinta and Hardy (2014), homosexual travellers are different from heterosexual one; they often feel themselves being marginalised and oppressed, causing reluctance in affirming their sexual orientation into the heterogeneous environment. Henceforth, Navarro et al., (2019) further differentiated homosexual group from heterosexual by the extent of social acceptance and safety needs since escapism was identified as one of the major reasons for former to travel without their “home identity”, meaning an inclusive environment is directly impacting their decision-making in the pre-travel stage in a pool of destinations.

#### Motivational and behavioural landscapes

Empirical findings unveiled that most of the LGBT travellers are demanding short-term spatial dimensions to enjoy relaxation with their partner and spouse in the homogenous environment, while conventional travellers within the segment shares commonalities with the heterosexual travellers in terms of travel purposes (Kattiyapornpong, 2006; see Figure 1). Khan (2013) also depicted the homosexual groups are evolving from time to time of their disposable income and vocations, consolidating their tendency to travel frequently and spend generously (see Figure 2).

**VACATION MOTIVATIONS:** For LGBTQ participants, relaxation, getting away from typical life, and exploring someplace new were the three most important reasons to take a vacation. Note the small percentage who indicated that celebrating or exploring LGBTQ community or life was a key vacation motivator. This result might caution travel companies to not overplay the "LGBTQ card" in promoting their destination or product. Escape seems to be the most important theme that motivates vacation planning.

What motivates you to take vacations?  
Please mark any reasons that motivated you to book a trip in the past 12 months.

	All LGBTQ Travelers	Millennials+	Generation X	Baby Boomers
To rest and relax	73%	72%	78%	67%
To get away from my typical everyday life	69%	75%	73%	59%
To explore someplace new	69%	72%	67%	66%
To return to a place that I know and enjoy	53%	52%	53%	53%
To experience and learn about other cultures	47%	48%	46%	46%
To celebrate or mark a special occasion	44%	51%	46%	37%
To restore work/life balance	44%	51%	49%	30%
To seek adventure	42%	49%	42%	34%
To feel alive and energetic	37%	43%	37%	30%
To splurge on myself or on my family/friends	35%	39%	37%	29%
To engage in a personal passion, activity or hobby	33%	37%	32%	30%
To see for myself the authentic things I have read or heard about	30%	31%	28%	31%
To celebrate or explore LGBTQ community or life	25%	27%	27%	22%
None of the above	1%	1%	1%	2%

Base: All LGBTQ Travelers n=4,882; Millennials+ n=1,540; Gen X n=1,515; Boomers n=1,827

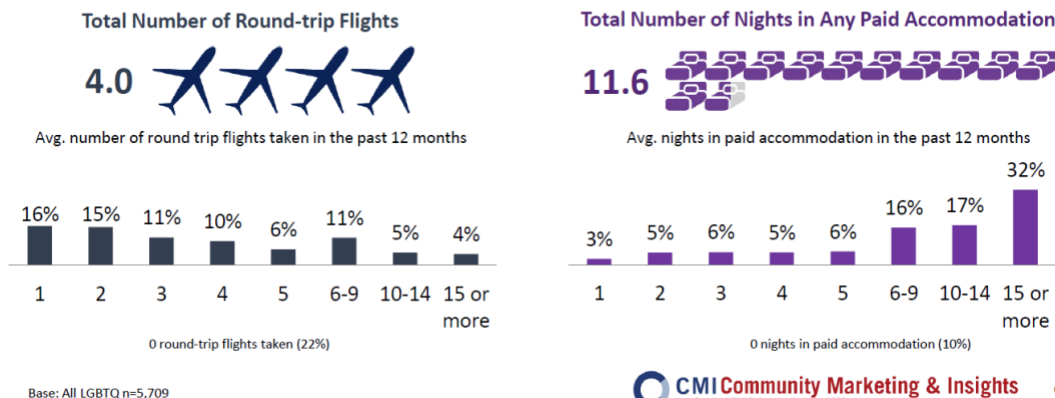
CMI Community Marketing & Insights  
Leaders in LGBTQ Research since 1992

Source: Retrieved from Community Marketing (2019).

Figure 1: General travel purposes of LGBTQ travellers

**LGBTQ TRAVEL BY THE NUMBERS:** However, when asked about the total number of round-trip air flights and the total number of nights in a paid accommodation, participants indicated an increase compared to 2017 (increased just over 5%).

#### Past Year Travel – Flights & Nights



Source: Retrieved from Community Marketing (2018).

Figure 2: Travel frequency of LGBT travellers globally

1. Relaxation, escapism, and new place exploration are the major motives for LGBT travellers to travel
2. Almost 30% of homosexual travellers whose travel purposes were to explore LGBT community.
3. Almost 20% of LGBT travellers travel twice in a year and at least spend two weeks on the host destination

Such findings have delineated the common drivers of travel between homosexual groups and heterosexual travellers. Despite exploring LGBT community seems minor during their conventional journey, there are several highlights regarding the lifestyles and behaviours of the LGBT population that are varied from heterosexual groups in general (Gates, 2014; Retnam, 2012; Smart & Klein, 2013):

- Ž Destinations with LGBT environments are more appealing to homosexual travellers since they tend to feel safe and included.
- Ž Gay-place visitation is still preferable for indulgent experiences, such as fun, relaxation, and escape from the daily routine with “home identity”.
- Ž Not necessarily to withhold intimate acts with partners in the heterogeneous environment as long as the destination has a high acceptance towards the LGBT community.
- Ž Keener on the market information that is relating to the LGBT-friendly activities.

The above studies succinctly differentiated the nature of homosexuality from conventional segments, meaning the mass market approach is not compatible with marketing LGBTs with their distinctive psychological characteristics. By reviewing the literature on travel motivations, the push and pull model has established a theoretical framework regarding the “internal forces” (i.e. personal related factors) and “external forces” (i.e. attractors trigger personal desires), that is, formulating travel decisions either consciously or unconsciously, with the interrelations of two forces (Wong, Cheung, & Wan, 2013). As such, the motivational factors that were driving homosexuals to travel and their destination selection have synthesised as follow:

**Push factors**

- Escapism through anonymity
- Social acceptance
- Relaxation
- Identity affirmation

**Pull factors**

- Homogenous environment
- Inclusivity
- Safety

Pink destination planning and marketing

### **Pink tourism foundations**

Tourism activities are attributed to spatial and temporal natures, where the individuals’ emotional aftermath is often associated with the planned moment of truth and destination attributes (Cutler & Carmichael, 2010). Numerous studies are suggesting that the tourist destination is made of various components but not limited to *attractions, infrastructures, hospitality, transportations, ancillaries*, and so on, to formulate tourists’ experiences from pre-visit to post-visit stages (Anuar et al. 2014; Ruhanen, 2004; Hall, 2008; Baker & Cameron, 2008). Given the distinctive contextual characteristics of LGBT tourism, the attractiveness of tourist destination is determined by how well the destination attributes capable of satisfying the psychological demands of homosexuals. Subsequently, there are several destination attributes identified as the critical drivers of homosexuals to travel:

- Ž **Legal framework** – The comprehensiveness of existing legal protections to homosexuals, such as legitimisation, discrimination, and civil rights (e.g. same-sex marriage) is always seen as the source of LGBTs’ sense of security (Ho, 2019; Hunt & Moodie, 2014);
- Ž **Local acceptance and supports of major stakeholders** – The openness of local community towards sexual diversity, LGBT rights, and fairness issues; as well as the supportiveness of

government and the industry in educating, cultivating, and nurturing behavioural buy-in of the LGBT acceptance (Chakraborty, 2019; Lucena et al. 2015);

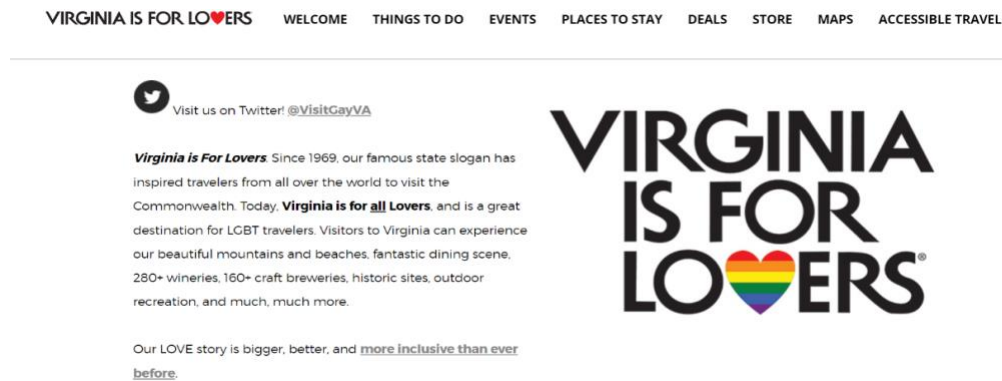
- ž **Tourism infrastructures** – Homosexual environments with a well-developed cluster of attractions, transportations, lodgings, and pink events that enables LGBTs to seek out indulgent experiences with anonymity (Hattingh & Spencer, 2017; Hughes, 2002).

Needless to say, the key drivers of decision making for LGBT are inextricably linking to personal motives while destination attributes only serving as necessary criteria of a particular destination that is appealing to their pursuits. The proposition of Xiang, Tussyadiah, and Buhalis (2015) also highlighted that the destination condition and the marketing strategies it employed are complementarities in nature. Eventually, the destination-related factors cannot trigger homosexuals' intention to participate in LGBT tourism but more likely a mediator shaping their choice of destination.

### **Marketing LGBT tourists**

When it comes to the market strategy formulation in the destination dimension, the focus was given to the destination branding and experience creation. Further to Hankinson's (2009) point of view, destination marketing is an inclusive strategy requires close coordination of *stakeholders' partnerships, brand communication, brand culture, and industry leadership* to facilitate the creation of brand equity. Under Hankinson's proposition, the coherence of the aforementioned components is critical in the pink destination marketing to attract LGBTs' attentions, homosexuals' perception of safety determines the pull forces of a destination primarily. As such, marketing homosexuals with the mass-market approach is not a feasible case but a customised framework to cater to the unique psychological and behavioural traits of LGBT (Ram et al., 2019).

- ž **Gay place** – Differ from supporting infrastructures, "gay-place" depicts boundaries with an agglomerate of LGBT-specialised establishments, such as gay bars, saunas, bookstores, and even boutiques therein serve as the major revenue centre that could reflect their social-values of which to cater special needs of individuals who uphold similar lifestyles (Markwell, 2002; Waitt & Markwell, 2014);
- ž **Pink destination image design and promotional mix** – A set of promotional instruments to deliver an explicit destination image with concise, affective, gay-caution content, including LGBT-friendly slogan and advertisement to reflect the inclusive destination environment to the target homosexuals (Guaracino & Salvato, 2017; Melo et al. 2016; see Figure 3 and 4).



Source: Screenshot from Virginia Tourism Corporation (n.d.)  
Figure 3: LGBT content and destination slogan of Virginia



Source: Screenshot from LEE (2019)  
Figure 4: LGBT advertisement of Cathay Pacific

- ž **Pink marketing information and tourism products** – Innovative and personalised LGBT tourism information and inclusive packages with supportive attributes, including pink events, LGBT accommodations, honeymoon spots, and tour packages that could contribute quality assurance to LGBTs from pre-arrival to arrival experiences (Seddighi & Theocharous, 2002).

Given that majority of research has proven destination image as the criteria for travellers formulating their travel decisions, ascertaining the level of satisfaction, and determining the revisit intentions, therefore matching both pull and push factors of homosexual consumers will be essential for destination planning and ongoing optimisation (Melo et al., 2016; Atadil et al., 2017, A). Meanwhile, a gay-friendly destination should also emphasise ongoing innovation driven by multilateral cooperation of government, industry leaders, and hospitality vendors as a whole to catalyse the brand equity based on the changing needs of target customers.



## Methodology

### Research framework

Abundant studies have outlined the nature of tourism activities that is unlike the manufacturing sector attributed with tangibility, whereby the sources of competitive advantage in tourism business is grounded on the governance of supporting attributes and value-added activities in creating distinctive experiences to outperform the competition (Rahmiati et al., 2019). Figure 6 displayed the rationale of value chain model specialised for the pink tourism development and marketing activities planning:



Source: Self-compiled from various sources

Figure 5: Pink destination value chain

As denoted by Porter (1985), the linkage of *primary activities* (i.e. value creation) and *secondary activities* (i.e. supporting attributes from the internal operation) serves as “blending agent” to sustain the best-value advantage by vertical integration. Concerning the contextual characteristics of destination planning and homosexual as the target, the alignment of *destination foundations* and *destination marketing activities* substituted the original concepts to adhere various coordination between government, industry associates, and vendors to maximise the visibility of the LGBT businesses with accelerated reliability in the local H&T connection. As a result, the *destination foundations* substantiate a set of “pull factors” that are appealing to homosexual travellers to make the selection of destination; thus, the destination marketing activities determine the “push factors” that is affecting the decision of travel (Kim et al., 2007).

**Additionally**, Köllen and Lazar (2012) emphasised that the effectiveness and efficiency of the pink-tourism destination branding are subjected to the capabilities of both destination foundations

and marketing activities in matching with the motivational factors of LGBT groups. This implies the destination marketer should dwell on the development of destination attributes and market activities that are best suited to the bundle of sought benefits of the given segment as suggested by the push and pull model (Mohammad & Som, 2010).

### **Sampling and research instrument**

A self-administered survey composes two sections with both descriptive and analytic measures has designed to capture the homosexuals travel preferences, habits, and perceived importance of pink destination attributes in order to perform the comparison of psychological and behavioural phenomenon throughout their travel destination decision-making under the prescribed hypothesis (Glasow, 2015). When it comes to the sampling collection, there are 120 valid samples collected while a snowball sampling approach has been applied to reach the homosexual groups by asking the respondents to refer the survey to the local gay networks, such as social media pages, private groups, dating apps, and gay place visitations (McDonald & Adam, 2003; Soper, 2020).

### **Data analysis**

Both multiple-regression analysis and one-way ANOVA have applied for assessing the correlations between *sexual orientation* and *visit intentions* of LGBT travellers. Meanwhile, the application of interval and ordinal scales have also incorporated the behavioural traits and psychological motives identified from the literature to measure the variance of travel motivations within the homosexual groups by 5-points Likert-scales and ranking scales from (1) Strongly disagree to (5) Strongly agree based on their perceived importance of the prescribed destination attributes towards the travel decision (Hsu, Cai, & Li, 2010). Thus, the interval scale composes of the prescribed Likert-measurement regarding the extent of visit intention has also established as dependent variables for measuring the linear relationship of predictors suggested by the value chain in order to identify the significance of particular destination attributes for the pink destination development (Atadil et al., 2017, B; Tasci, 2007).

## **Results**

### **Objective A: To compare the travel motivations between homosexual groups**

Table 1 indicates the enjoyment of intimate acts without “home-identity” (F ratio = 10.14,  $p < 0.01$ ), identity affirmation (F ratio = 6.00,  $p < 0.05$ ), and social acceptance (F ratio = 5.7,  $p < 0.05$ ) are the top three motivations that were driving homosexuals to travel. Yet, the lesbian group tends to be more open for intimate acts with their partners outside their usual environment (mean = 4.24) than bisexual (mean = 3.25) and gay people (mean = 3.09). For the identity affirmation, the comparison of mean-variance displays the gay people (mean = 3.03) are keener on reflecting their “gay-culture” and social values through the active participation into LGBT activities during travel. The result reflects gay people are the major population driving the LGBT equity in many large-

scale pink protests in the past, making the male homosexuality beyond lesbian (mean = 2.79) and bisexual (mean = 2.21) when it comes to self-disclosure (Pistella et al., 2016). Furthermore, lesbian (mean = 4.62) and bisexual (mean = 4.24) are demanding social acceptance from the host destinations than gay people (mean = 3.88) as a form of escapism since this two groups often received fewer attentions, especially for bisexual in a binary relationship (Frost & Meyer, 2009).

Table 1: ANOVA Tests on travel motivations by sexual orientation

Attributes	Means by Sexual Orientation			F-ratio	ANOVA (Sig. value)	Comparison
	Gay (2)	Lesbian n (3)	Bisexual (4)			
Enjoy intimate acts without “home identity”	3.09	4.24	3.25	10.14	.00*	$L > G, L > B, B > G$
Identity affirmation	3.03	2.79	2.21	6.00	.04**	$G > B, G > L, L > B$
Indulgent experiences in homosexual environments	4.00	3.76	4.00	.69	.51	
Social acceptance	3.88	4.62	4.24	5.70	.05**	$L > G, L > B, B > G$

\* $p < 0.01$ , \*\* $p < 0.05$ . *L*, Lesbian, *G*, Gay, *B*, Bisexual.

**Objective B: To examine the correlation between homosexual travellers’ motivations and visit intention**

Table 2 displays the regression values of four predictors associate with the travel motivations of homosexuality on destination visitation ( $RR2 = 0.14$ , Adjusted  $RR2 = .94$ ,  $F\text{-value} = 3.29$ ,  $p < 0.05$ ). The enjoyment of the indulgent experience in homosexual environments has identified the most influential predictor among all the motivations (Unstandardised  $\beta = 0.28$ ,  $p < 0.05$ ) of which other attributes have no impacts on homosexuals’ visit intention ( $p > 0.05$ ). The result implies the relaxation, fun, and socialization in homosexual environments would be an ideal travel consideration for homosexuals in general. Unlike the previous result relates to the variance of motivations between sub-groups of the segment, the findings substantiated the direction of marketing this niche segment to be mindful to the homogenous experience as the literature also highlighted the behavioural traits of homosexuals relating to their desires of escapism. Thereby, the result has aligned the motivational factors of homosexuals to the pull drivers for the inputs in developing an ideal LGBT friendly destination conditions and value propositions

Variables	Unstandardised coefficients		t-value	p value
	B	Standard error		
(Constant)	3.92	.48	8.13	.00
Enjoy intimate acts without “home identity”	-.61	.08	-.73	.67

Identity affirmation	-2.1	.09	-2.3	.24
Indulgent experiences in homosexual environments	.28	.09	3.2	.02**
Social acceptance	-.47	.09	-.51	.11

Table 2: Regression analysis for homosexuals' travel motivation on visit intention

\*\* $p < 0.05$ . Adjusted  $R^2 = .94$ ,  $F = 3.29$ , Significant  $F = .15$

### **Objective C: To analyse the perceived importance of destination attributes towards an LGBT friendly destination**

Table 3 shows the industry supports (Unstandardised  $\beta = -0.96$ ,  $p < 0.05$ ) and LGBT-tourism products (Unstandardised  $\beta = -0.89$ ,  $p < 0.05$ ) are the most important destination attributes among all the predictors with the regression values on visit intentions ( $R^2 = 0.17$ , Adjusted  $R^2 = 0.14$ ,  $F$ -value = 4.70,  $p < 0.05$ ), while other attributes with  $p > 0.05$  have no significance on the visit intention. The result suggests that the involvement of government, DMOs, and industry practitioners to create frictionless experiences and specialised tourism products are necessary as the pink destination foundation yet the facilitator on the value integration process. The findings also reveal that the reluctance in serving homosexual travellers arose from an outdated view should be eliminated through the educational means and information leverage. More importantly, this implies the role of the industry leaders also taking place in networking to ensure resources aggregation, information sharing, and products distribution whereby enabling the creation of unique value propositions and diverse travel experiences incorporated with positive synergies as outlined by the pink value chain model.

Table 3: Regression analysis for pink destination attributes affecting visit intention

Variables	Unstandardised coefficients		t-value	p value
	B	Standard error		
(Constant)	14.8	4.59	3.23	.02
Legal protection	-5.5	.33	-1.7	.97
Local acceptance	-6.8	.30	-2.2	.27
Industry supports	-9.6	.31	-3.1	.03**
LGBT travel information	-7.3	.32	-2.9	.24
LGBT tourism products	-8.8	.30	-2.9	.05**

\*\* $p < 0.05$ . Adjusted  $R^2 = .41$ ,  $F = 4.67$ , Significant  $F = .01$

## **Discussions and conclusion**

This study highlights that the Hong Kong tourism industry should be aware of the increasing awareness of sexual diversity since homosexuality serves as an emerging segment with unmeasurable extrinsic and intrinsic values. The review of literature has proven that the necessity of understanding the psychological and behavioural blueprints of homosexuals for the destination marketers to refine the destination foundations and value-creation activities accordingly. As such, it is suggested that the formulation of a customised strategic framework to substantiate the big picture of how the industry leaders create desirable landscapes and value propositions to draw the attention of this particular segment apart from the mass-market approaches. The findings have also

justified the major motivations between different homosexual groups and several destination attributes as well as market approaches that are appealing to the segment. The implications of the findings are generalised as follow:

### **Industry implications**

From the DMOs point of view, the findings suggest that the heterogeneous strategies to target different subgroups of the segment as identified the lesbian and bisexual groups are more demanding in terms of acceptance from the local community and travel with anonymity. While the research also outlines the importance of industry supports and customised products on homosexuals' visitation, DMOs plays a central role in promoting local tourism businesses should lead the industry to highlight the destination message about Hong Kong as the world-class destination values diversity by "gay-caution" content. More importantly, the multilateral cooperation within DMOs and industry operators for the creation of customised tour packages to target this particular segment is also highly recommended along with the pink communication strategies to cultivate the buy-in behaviours about the sexual diversity concepts into the industry practices.

This study also recommends the government to be mindful on the equality of sexual minority as the absence of same-sex marriage recognition and anti-discriminate law has been the hindrance of the pink tourism development. Chia and Barrow (2015) also suggested the launch of a comprehensive legal framework to advance the social atmosphere on the homosexual acceptance by addressing unfairness arising from the segregation by sexual orientation. Besides, the development of gay-boundaries also relies on the government to take the initiative to connect the existing properties as a "pink-cluster" for the segment. At present, the gay establishments are mostly concentrated in Hong Kong Island and Yau Tsim Mong districts therein the governmental organizations could identify potential entities for networking in order to develop a "pink-landscape" as part of the stepping stone to reach the segment.

### **Research implications and limitations**

The research also generalises the process of value integration into the destination marketing dimension of which has emphasized the importance of coordination within the industry while the government and DMOs remain the centre of the decision making. Thereby, this topic enables future research regarding the measure of effectiveness and efficiency of destination planning for homosexuality based on the prescribed categorial variables and further generalisation of literature.

Nevertheless, there are two limitations have identified as follow:

- I. The transgender respondents were unreachable in which has limited the representativeness of the LGBT population in this research
- II. The "gay place" variables of the destination foundation category have removed from the regression analysis due to the "Dummy variables trap" issue, meaning the validity of the findings will be affected

## References

- Atadil, H. A., Sirakaya-Turk, E., & Altintas, V. (2017). An analysis of destination image for emerging markets of Turkey. *Journal of Vacation Marketing*, 23(1), 37–54. <https://doi.org/10.1177/1356766715616858>
- Anuar, A. N. A., Ahmad, H., Jusoh, H., & Hussain, M. Y. (2012). The roles of tourism system towards development of tourist friendly destination concept. *Asian social science*, 8(6), 146.
- Badgett, M. L., Nezhad, S., Waaldijk, C., & Meulen, R. Y. (2014). The relationship between LGBT inclusion and economic development: An analysis of emerging economies. *GLQ: A Journal of Lesbian and Gay Studies*, 12(4), 617-619.
- Baker, M. J., & Cameron, E. (2008). Critical success factors in destination marketing. *Tourism and hospitality research*, 8(2), 79-97.
- Chakraborty, R. (2019, August 29). *Indian parents 'brought out of the closet' on LGBT issues*. South China Morning Post. <https://www.scmp.com/lifestyle/family-relationships/article/3024706/indian-lgbt-workshop-helps-queer-people-bring>
- Community Marketing. (2019). *CMI-13th\_LGBTQ\_Community\_Survey\_US\_Profile.pdf* [Summary Report]. 13th Annual LGBT Community Survey. USA. [https://www.communitymarketinginc.com/documents/temp/CMI-13th\\_LGBTQ\\_Community\\_Survey\\_US\\_Profile.pdf](https://www.communitymarketinginc.com/documents/temp/CMI-13th_LGBTQ_Community_Survey_US_Profile.pdf)
- Community Marketing. (2018). *CMI-12th\_LGBTQ\_Community\_Survey\_US\_Profile.pdf* [Summary Report]. 12th Annual LGBT Community Survey, USA. [https://www.communitymarketinginc.com/documents/temp/CMI-12th\\_LGBTQ\\_Community\\_Survey\\_US\\_Profile.pdf](https://www.communitymarketinginc.com/documents/temp/CMI-12th_LGBTQ_Community_Survey_US_Profile.pdf)
- Cutler, S. Q., & Carmichael, B. A. (2010). The dimensions of the tourist experience. *The tourism and leisure experience: Consumer and managerial perspectives*, 44, 3-26
- Faber, J., & Fonseca, L. M. (2014). How sample size influences research outcomes. *Dental Press Journal of Orthodontics*, 19(4), 27–29. <https://doi.org/10.1590/2176-9451.19.4.027-029.ebo>
- Guaracino, J., & Salvato, E. (2017). *Handbook of LGBT Tourism and Hospitality: A Guide for Business Practice*. Columbia University Press.
- Gates, G. J. (2014). *LGBT Demographics: Comparisons among population-based surveys*. <https://escholarship.org/uc/item/0kr784fx>
- Glasow, P. A. (2005). Fundamentals of survey research methodology. Retrieved January, 18, 2013.
- Ho, M. (2019). Taiwan's Road to Marriage Equality: Politics of Legalizing Same-sex Marriage. *The China Quarterly*, 238, 482–503. <https://doi.org/10.1017/S0305741018001765>
- Hattingh, C., & Spencer, J. P. (2017). *Salient factors influencing gay travellers' holiday motivations: A push-pull approach*. <http://digitalknowledge.cput.ac.za/handle/11189/6162>
- Hunt, J., & Moodie-Mills, A. (2012). The unfair criminalization of gay and transgender youth: An overview of the experiences of LGBT youth in the juvenile justice system. *Center for American Progress*, 29, 1-12.
- He, Y., & Day, J. (2011). Impact of Visitation on Destination Image: Examination of Chinese tourists visiting New York City. *Graduate Student Research Conference in Hospitality and Tourism*. [https://scholarworks.umass.edu/gradconf\\_hospitality/2011/Poster/50](https://scholarworks.umass.edu/gradconf_hospitality/2011/Poster/50)
- Hsu, C. H., Cai, L. A., & Li, M. (2010). Expectation, motivation, and attitude: A tourist behavioural model. *Journal of travel research*, 49(3), 282-296.

- Hankinson, G. (2009). Managing destination brands: establishing a theoretical foundation. *Journal of marketing management*, 25(1-2), 97-115.
- Hall, C. M. (2008). *Tourism planning: Policies, processes and relationships*. Pearson Education.
- Hughes, H. (2002). Gay men's holiday destination choice: a case of risk and avoidance. *International Journal of Tourism Research*, 4(4), 299-312.
- Khan, R. (2013). *Travel motivations of gay and lesbian tourists: A qualitative inquiry* [Doctoral thesis, University of Delaware]. <http://udspace.udel.edu/handle/19716/12794>
- Köllen, T., & Lazar, S. (2012). Gay Tourism in Budapest: An Exploratory Study on Gay Tourists' Motivational Patterns for Traveling to Budapest. *American Journal of Tourism Management*, 1(3), 64-68.
- Kim, K., Oh, I. and Jogaratnam, G. (2007). College student travel: A revised model of push motives. *Journal of Vacation Marketing*, 13(1), 73-85.  
<http://dx.doi.org/10.1177/1356766706071201>
- Kattiyapornpong, U. (2006). Understanding travel behavior using demographic and socioeconomic variables as travel constraints. *Faculty of Commerce, University of Wollongong*, 1-9.
- LEE, D. (2019, May 20). *Cathay Pacific's LGBT ad banned from Hong Kong airport and MTR*. South China Morning Post. <https://www.scmp.com/news/hong-kong/transport/article/3010825/cathay-pacific-advert-showing-same-sex-couple-banned-hong>
- LGBT capital. (2018). *LGBT GDP, Wealth & Travel Data 2018* (pp. 37-43) [Overview report]. LGBT Capital. [http://www.lgbt-capital.com/docs/LGBT\\_GDP\\_&\\_Tourism\\_2018\\_\(ES\).pdf](http://www.lgbt-capital.com/docs/LGBT_GDP_&_Tourism_2018_(ES).pdf)
- Lubowiecki-Vikuk, A. P., & Borzyszkowski, J. (2016). Tourist Activity of LGBT in European Post-Communist States: the Case of Poland. *Economics & Sociology*, 9(1), 192.
- Lucena, R., Jarvis, N., & Weeden, C. (2015). A review of gay and lesbian parented families' travel motivations and destination choices: Gaps in research and future directions. *Annals of Leisure Research*, 18(2), 272-289. <https://doi.org/10.1080/11745398.2015.1040038>
- Melo, H. M. P., Moniz, A. I. A., & Silva, F. (2016). *Tourist destination image and consumer behaviour: The case of the Azores* (pp. 1-9) [WorkingPaper]. Universidade dos Açores. <https://repositorio.uac.pt/handle/10400.3/5148>
- Mohammad, B. A. M. A. H., & Som, A. P. M. (2010). An analysis of push and pull travel motivations of foreign tourists to Jordan. *International Journal of Business and Management*, 5(12), 41.
- McDonald, H., & Adam, S. (2003). A comparison of online and postal data collection methods in marketing research. *Marketing intelligence & planning*.
- Markwell, K. (2002). Mardi Gras tourism and the construction of Sydney as an international gay and lesbian city. *GLQ: a journal of lesbian and gay studies*, 8(1), 81-99.
- Navarro, M. A., Hoffman, L., Crankshaw, E. C., Guillory, J., & Jacobs, S. (2019). LGBT Identity and Its Influence on Perceived Effectiveness of Advertisements from a LGBT Tobacco Public Education Campaign. *Journal of Health Communication*, 24(5), 469-481.  
<https://doi.org/10.1080/10810730.2019.1615582>
- Pistella, J., Salvati, M., Ioverno, S., Laghi, F., & Baiocco, R. (2016). Coming-out to family members and internalized sexual stigma in bisexual, lesbian and gay people. *Journal of Child and Family Studies*, 25(12), 3694-3701.
- Porter, M. E. (1985). *Competitive Advantage: Creating Sustainable Performance*. New York: Free Press.

- Rahmiati, F., Ismail, Y., Amin, G., Simatupang, T., Larso, D., & Othman, N. A. (2019, September). Tourism Value Chain Activities Model for Competitive Advantage Measurement. In *International Conference on Trade 2019 (ICOT 2019)*. Atlantis Press.
- Ram, Y., Kama, A., Mizrachi, I., & Hall, C. M. (2019). The benefits of an LGBT-inclusive tourist destination. *Journal of Destination Marketing & Management*, 14, 100374. <https://doi.org/10.1016/j.jdmm.2019.100374>
- Retnam, S. (2012). *Travel behavior among Malaysian gays: a comparison between Malay, Indian and Chinese ethnicities* (Doctoral dissertation, University of Malaya).
- Ruhanen, L. (2004). Strategic planning for local tourism destinations: An analysis of tourism plans. *Tourism and Hospitality Planning & Development*, 1(3), 239-253.
- Soper, D.S. (2020). A-priori Sample Size Calculator for Multiple Regression [Software]. Available from <http://www.danielsoper.com/statcalc>
- Smart, M. J., & Klein, N. J. (2013). Neighborhoods of affinity: social forces and travel in gay and lesbian neighborhoods. *Journal of the American Planning Association*, 79(2), 110-124.
- Seddighi, H. R., & Theocharous, A. L. (2002). A model of tourism destination choice: a theoretical and empirical analysis. *Tourism management*, 23(5), 475-487.
- Tasci, A. D. A. (2007). Assessment of factors influencing destination image using a multiple regression model. *Tourism Review*, 62(2), 23–30. <https://doi.org/10.1108/16605370780000311>
- Vorobjovas-Pinta, O., & Hardy, A. (2014). Rethinking gay tourism: a review of literature. *CAUTHE 2014: Tourism and Hospitality in the Contemporary World: Trends, Changes and Complexity*, 635
- Virginia Tourism Corporation. (n.d.). *LGBT Travel; A great destination for LGBT travelers*. Retrieved 17 March 2020, from <http://www.virginia.org/LGBT/>
- Waitt, G., & Markwell, K. (2014). *Gay Tourism: Culture and Context*. Routledge.
- Wong, M. M. C., Cheung, R., & Wan, C. (2013). A study on traveler expectation, motivation and attitude. *Contemporary Management Research*, 9(2).
- Xiang, Z., Tussyadiah, I., & Buhalis, D. (2015). Smart destinations: Foundations, analytics, and applications. *Journal of Destination Marketing and Management*, 4(3), 143-144.
- Yue, A., & Leung, H. H.-S. (2017). Notes towards the queer Asian city: Singapore and Hong Kong. *Urban Studies*, 54(3), 747–764.



# The evolutionary characteristics of tourism public opinion crisis: the case of Guilin

*Bailin Ye, Yi Liu & Qize Zhao*

## Abstract

The generic public opinion of the Internet makes the spread of information faster with lower latency and lower attenuation. To explore whether if such public opinion crisis can be applied to the Internet era, this study takes the incident of tour guide forced consumption in Guilin in 2019 as a case study to capture the evolution of public opinion crisis from a spatiotemporal perspective, and discover the multilateral effect of tourism public opinion crisis for the first time.

**Keywords:** Tourism Crisis, Online Public Opinion, Multilateral Effect

## 1. Introduction

As flat network is becoming more common, it is becoming easier for public sentiment to escalate faster. Therefore, how to manage and guide the decentralized public opinion and how to understand the internal evolution mechanism and communication characteristics of tourism public opinion crisis have become urgent problems to be solved. Previous studies of tourism public opinion crisis is still in the preliminary stage of phenomenon interpretation, and the space-time law, government guidance role, public opinion content mining and other aspects is not clear.

Take Guilin tourism public opinion crisis (hereafter “Guilin tourism POC”) as a case study, this paper aims to reveal the spatiotemporal evolutionary characteristics of public opinion crisis, and identify the main influencing factors of the general crisis of network public opinion diffusion process of space and time.

## 2. Literature Review

After the rise of the Internet, scholars began to include the public opinion crisis into their research scope(Fu et al.,2014; Qi & Yang, 2018). Compared with the general online public opinion, the tourism public opinion crisis will be generalized from those involved to the tourist destination, and the main body of the response is often the government rather than the protagonists of the incident, and the effect of such is easy to generate stereotypes, which will cause a far-reaching impact on the destination image.

Compared with traditional public sentiment research, online public sentiment communication has many new characteristics. From transmission routes, the flat Internet environment makes online public opinion communication more rapid, and the geographical "stickiness" turns into the correlation between network nodes(Yu & Li,2010). In terms of communication forms, the diversification of communication subjects has changed the traditional single-core or multi-core dissemination way of public opinion communication. This decentralized mode of public opinion

communication makes it particularly difficult for the government to regulate public opinions, among which opinion leaders play a prominent role in the evolution of online public opinions(Ji & Ma, 2007). From the perspective of communication effect, compared with traditional public opinions, online public opinions have a shorter lasting duration and it is difficult to deepen the perspective.

Big data is one of the important empirical tools for net-mediated public sentiment research, which helps explore the internal characteristics and rules of public opinion research, providing a practical reference basis for public opinion management, guidance and monitoring. At present, there are two main direction of execution for the breakthrough of combining big data with public opinion research. One is making big data as an environment and combine with network public opinion management and guidance (Heather Savigny, 2010;Qu et al, 2015; Li Zheng, 2019). The other is to combine big data with network public opinion analysis and early warning, focusing on applied research(Kwon et al, 2016; Yu Guoming, 2013; Wang & Gong ,2017).

In summary, the government has problems of public opinion supervision, in the context of the low-latency, low-attenuation, and multi-agent network public opinion dissemination. It needs the help of big data, and the characteristics of public opinion can be mined by crawling, content analysis, and sentiment analysis.

Previous studies provide practical references for public opinion management, monitoring and crisis warning. Due to the short rise of the Internet, the methodology and theoretical basis for tourism public opinion crisis are still being explored. Existing researches are mostly focused on the exploration of "what is being said", and "what happened" in conjunction with incident nodes in time, as well as "who is talking" based on users' ip address in space. Meanwhile, there is not much discussion about the deep semantic structure of public opinion content, whether the phase of time exists, and what are the characteristics of spatial diffusion.

With the help of big data, this paper analyses the Guilin tourism POC based on the traditional theory of crisis life cycle and diffusion theory in time and space, discuss the phases of time and the diffusion characteristics of space, and try to find some new phenomenon.

### **3. Methodology**

#### **3.1 Research object**

This study takes an public opinion crisis caused by tour guide compulsory consumption in Guilin as the research subject. After analyzing the information on Weibo, Caijing.com, Xinhuanet.com and China Youth Network, a review of the event development in Figure 3-1 was compiled.



Figure 3-1. The review of the incident development

### 3.2 Data collecting

This study uses Weibo as the data acquisition platform. All relevant topics of the events based on the "tag" function of Weibo were retrieved, and the content of Weibo under these search terms was crawled, including the user name, release time, and the source of the comment. The crawled data is saved in an Excel files for filtering to obtain the initial data.

### 3.3 Research method

#### 3.3.1 Content analysis

The "comment" field of the two escalation periods' data of public opinion is selected separately, and two corpus packages are encapsulated. The TD-IDF method is using to mine the content keywords of the public opinion corpus . Particularly, before the keyword analysis, the Zipf detection is performed first, so as to extract the keywords from the corpus that conforms to the Zipf distribution. As shown in Figure 3-2, the distribution of keywords on the Weibo of the incident complies with Zipf's law of distribution and meets the conditions for extracting keywords.

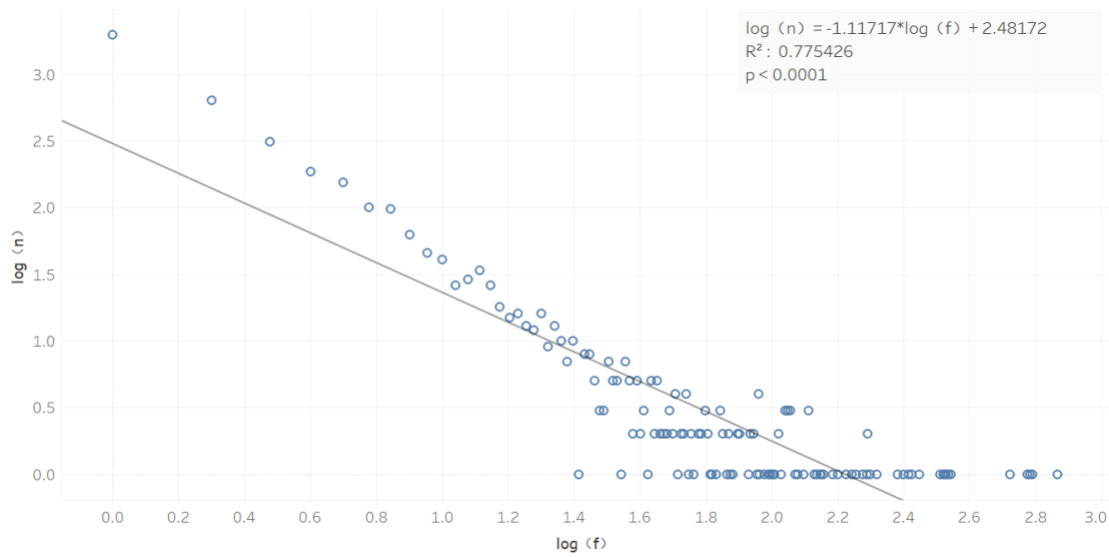


Figure 3-2. Zipf detection scatter plot

### 3.3.2 Temporal analysis

Observing the rule that the amount of public opinion comments changes with the "comment time" and dividing the incident into stages, this study analyzes the time characteristics of tourism public opinion crisis with the combination of the crisis life cycle theory.

### 3.3.3 Spatial analysis

For spatial analysis, the "source" and "time of comment" fields of the two escalating periods' data of public opinions were selected respectively, and categorized into three corpus packages with similar data volume by the "time of comment". Through combining the amount of comments with the "origin", the data is visualized as a public opinion heat map through the ArcGIS software and compared to the "comment time". As a result, the sequence of spatial diffusion is observed.

## 4. Results

Retrieving Weibo topics related to the "the Guilin tourism POC" based on the "tags" function of Weibo, the topic events and topic time to June 10-12, June 18, and November 28-29, 2019 as nodes , were combined and organized it into Table 4-1.

\*\*\*Table 4-1 is here\*\*\*

As of March 4, 2020, a total of 23,927 comments have been obtained by the mean of using python code to crawl the above-mentioned related Weibo comments and screen them. After analysis, it was found that the comments were mainly concentrated on the two public opinion fermentation time points of June 11-12 and November 28-29, 2019, except for when the public opinion popularity can be ignored.

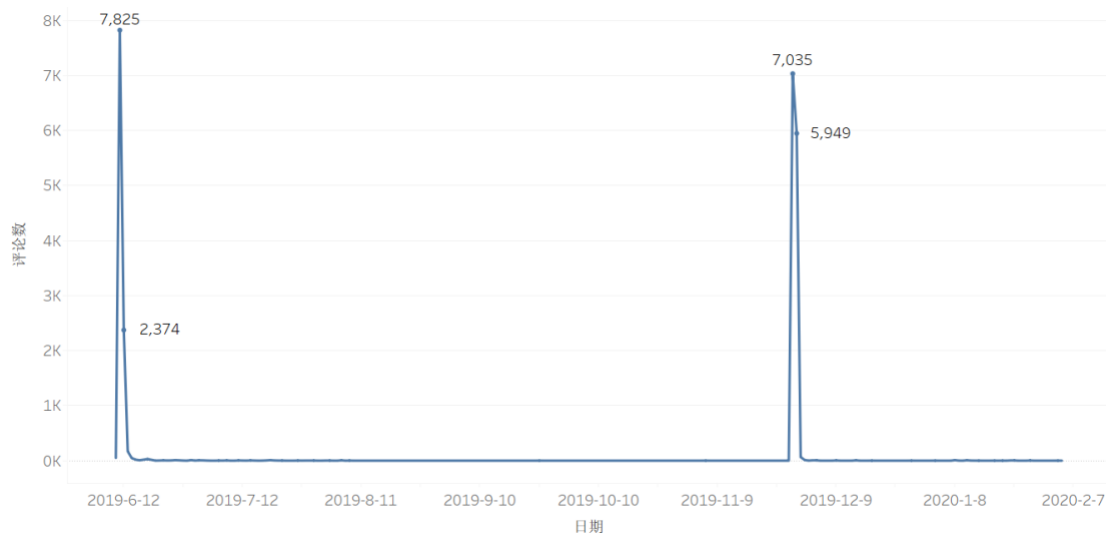


Figure 4-1. Comment volume - time change line graph

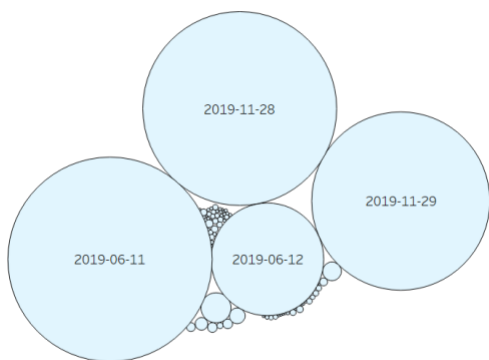


Figure 4-2. Comment volume - time bubble chart

Focusing on the two epidemic escalation periods, this article analyzes the spatiotemporal evolution process of the event with the help of big data analysis.

#### 4.1 Comparative analysis

Selecting the contents of the microblogs in the two escalation periods respectively, and calculating them by the TD-IDF method, the top 20 keywords of their weights were obtained. The results are shown in Tables 5-1 and 5-2.

\*\*\*Table 4-2 is here\*\*\*

\*\*\*Table 4-3 is here\*\*\*

It can be found from the table that most of the keywords with higher TD-IDF weight ranking have higher TD values and lower IDF values, which mainly revolve around the incident itself. The keywords with higher IDF value and lower TD value ranked lower, reflecting the diversity of opinions in public opinion.

Through the comparative analysis of the two period, it can be found that the public opinion appeal of "eliminate underground forces" was resolved only in the second period, indicating that whether the public opinion dissipated does not depend on whether the government responded to the appeal, but will naturally fade away within a period of time. However, the negative emotions for tourist destinations, government and other related issues can not gradually disappeared over time. Failure to effectively respond to this will cause the emotion to accumulate and eventually exist in public memory in the form of stereotypes.

## 4.2 Semantic Analysis and "Multilateral Effect"

Before semantic analysis, we first try to classify directly from the corpus level. After interpreting one hundred comments in the two escalating public opinion corpora, the comment types were modified. The results are shown in Table 4-4.

\*\*\*Table 4-4 is here\*\*\*

2000 comments were extracted from the two escalating corpora of public opinion for manual interpretation, and they were encapsulated in different corpora according to their types. Among them, complaint comments and other comments are not new, so we only calculate the weight value of other two comment types. The result is shown in Tables 4-5 and 4-6.

\*\*\*Table 4-5 is here\*\*\*

By analyzing the above chart, it can be seen that "sweeping gangsters and evil" is the core keyword of demanding type of comments, and the main appeal targets include media and party and government departments. Among them, the Guilin Tourism Development Committee, as a directly related tourism department, has a frequency of mentions that is inferior to that of People's Daily, indicating that the flattened public opinion environment of the Internet makes the appeal transmission path from the original "user - related tourism department" direct appeal change to a clustered "user-authoritative media or government department -related tourism department" path.

\*\*\*Table 4-6 is here\*\*\*

In associating comments, there are many comments on related tourism destinations that require relevant departments to rectify them, indicating that public opinion is not an isolated vortex, but a

generalized link with correlation effect. Internet memory is not short-lived and forgetful, but lurking.

In addition, the high frequency of mentions of Yunnan is also worth noting. We speculate that there is a multilateral effect of public opinion memory in a tourism public opinion crisis. Multilateral effect was originally used in the field of population flow research, referring to the interdependence and restriction between various emigration places, destinations or migration flows in the regional population migration system. This is similar to the performance of public opinion memory in the tourism public opinion crisis: when a public opinion crisis occurs at one tourist destination, the public's negative memories of similar experiences in other destinations are stimulated as an effect, and eventually it evolves into a complex tourist destination negative public opinion network.

In order to verify the conjecture, this research uses Baidu index and uses "Yunnan tour guide" as the key word to obtain the search index of each province and city from May 1, 2015 (the "Yunnan tour guide insulting tourist incident" on that day) - May 1, 2019 . After correcting and fitting, the result is shown in Figure 4-6.

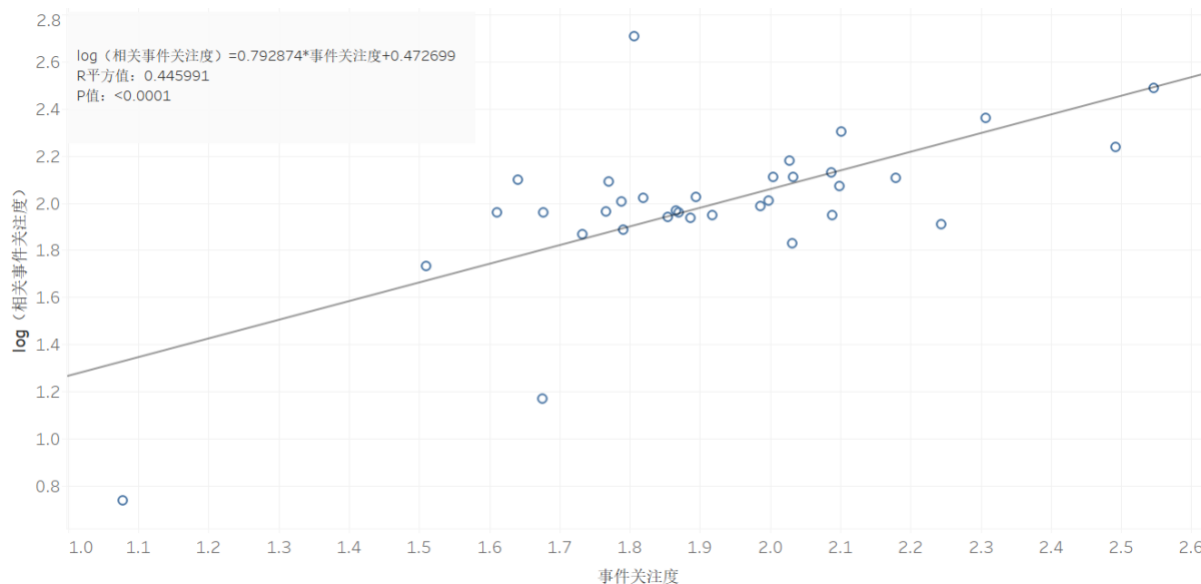


Figure 4-6. Fitting of attention degree of two events in Yunnan and Guilin



After calculating, we find that  $R^2=.45$ ,  $P<.01$ , which indicate that tourism crisis public opinion has a "multilateral effect" on similar event tourist destinations. Public opinion is not isolated and only developed for the event itself, but it is sticky and lurking.

### 4.3 Temporal analysis

Starting from the beginning of a small amount of retweeting on Weibo at 10:25 on June 11th, the time window is divided by 1 hour to draw a graph of the amount of comments over time, as shown in Figure 4-7.

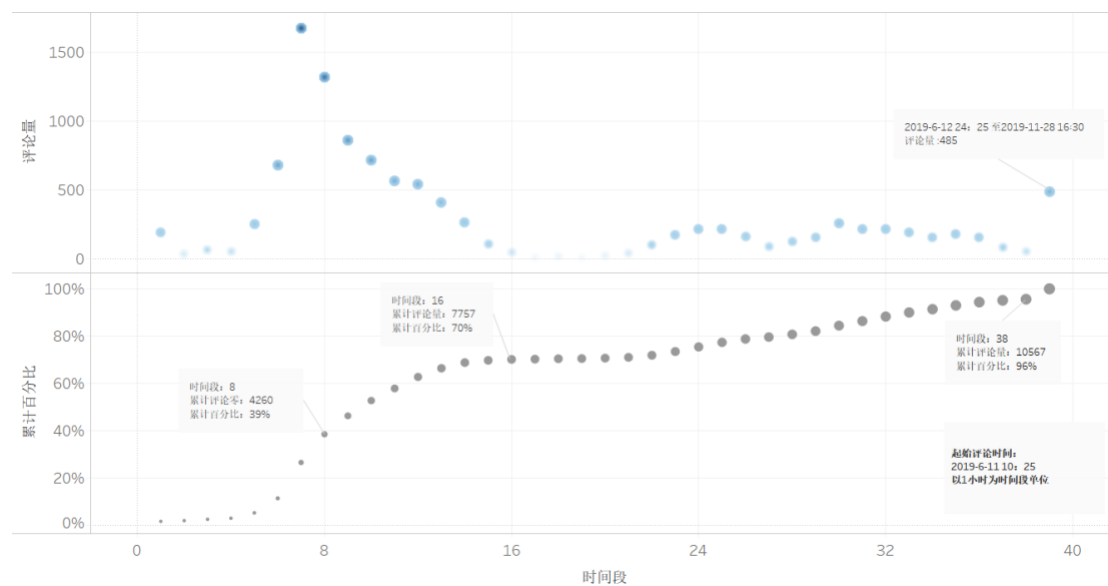


Figure 4-7. Public opinion fermented comment amount-time composite graph

Combining the analysis results of the above figure with Fink's crisis life cycle theory(Steve, F, 1986) , the crisis event stage is divided into the incubation period after the news is revealed, a small amount of hot discussion period of 0-8 hours after reprinting begins, 8-16 hours of diffusion period and cooling period after 16 hours.

In terms of time, the life cycle of an online public opinion crisis is not a continuous phased cycle, but a short and intermittent public opinion divided based on the time distribution of topic nodes.

From the public opinion that is still sparked controversial debate after a half-year interval between the two, it can be seen that Internet memory is not short-lived. Once triggered by related events, the information will be re-excavated and the popularity will not decrease significantly.

It should be noted that the response of the local tourism department is not the main factor in the dissipation of public opinion. The government's response on June 12 was staggered by the government's measures on June 18 and the peak of public opinion. This did not show that it played an important role in dissipating public opinion, but more demonstrated that there is a cycle of public opinion attention in the Internet.

#### 4.6 Spatial analysis

Combining the fields of "origin" of Weibo users and "posting time" of comments, the distribution characteristics of the spread of public opinion can be explored. According to the above analysis, three time periods of 0-8 hours, 8-16 hours, and 16 hours later were used to divide the two corpora to obtain a total of 6 data sets. The amount of comments is used to measure the popularity of regional public opinion, and an absolute heat map is obtained. The relative heat map is obtained after correction based on the population factors of different regions.

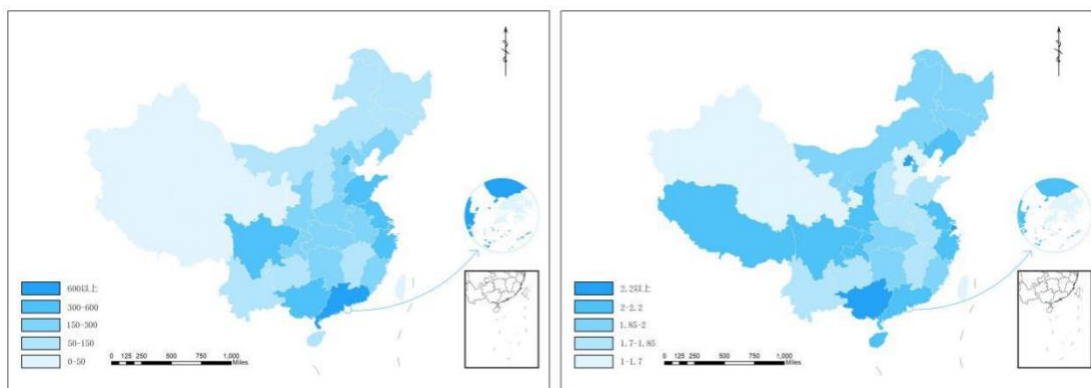


Figure 4-8. Absolute and relative public opinion heat map

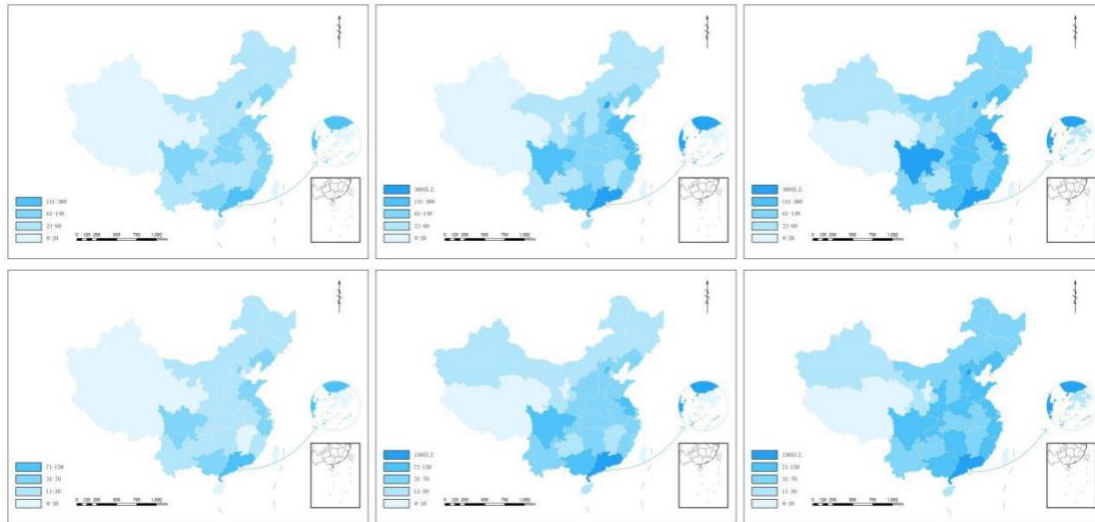


Figure 4-9 The first and second public opinion fermentation absolute heat map

The amount of comments is greatly affected by factors such as the population of each region and the degree of Internet penetration, and the geographic relevance of the spread of public opinion in space is not obvious. Overall, the distribution of absolute public opinion popularity is in line with the trend of "high in the east and low in the west" of China's economic development level.

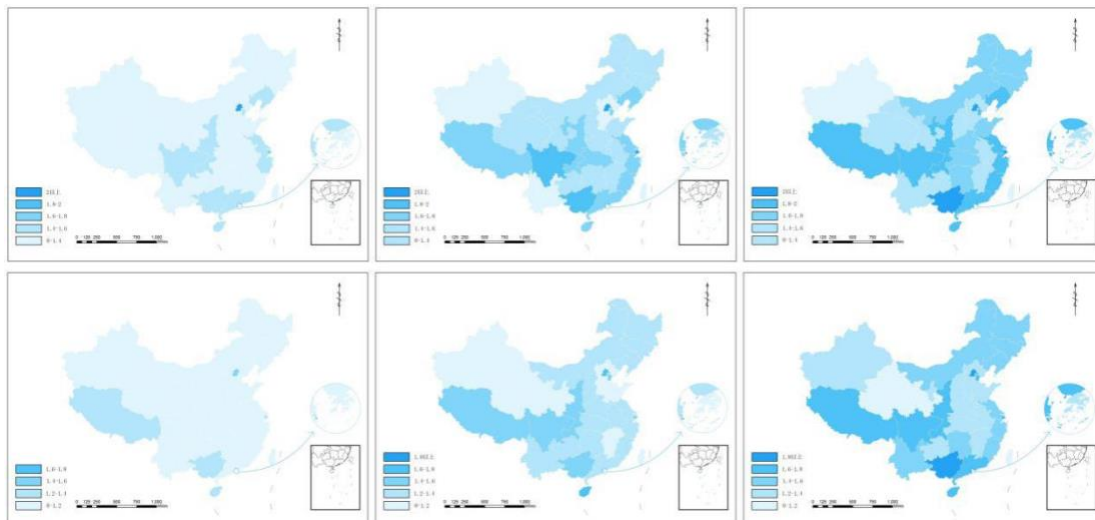


Figure 4-10. The first and second public opinion fermentation relative heat map

After revision and further analysis, it's found that since there is no delay in time and space in the

spread of Internet information, the relative heat map also does not show obvious spatial diffusion rules. The analysis found that the public opinion event spreading node based on the Weibo platform presents a fission-type diffusion patten (Yu Guoming, 2011), and the regionality is one of the connection anchors between the Weibo users node and the node(Han Yanan, 2012). Although the audience's regionality of some key nodes can be used to provide a basic explanation for the event's attention, most of the time this audience's regionality is disorderly.

Through obtaining the distance from each province and city to Guilin through the Baidu map "ranging" tool, taking the logarithm, and fitting it with the revised event attention, the result demonstrated that there is no obvious evidence that there is a correlation between the event attention and the spatial distance.

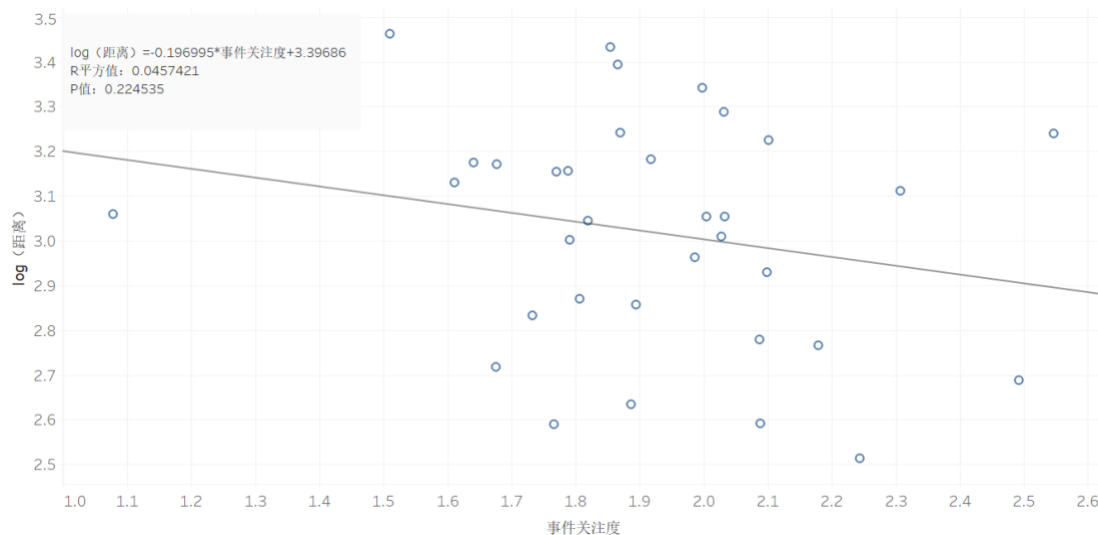


Figure 4-11 Fitting graph of event attention and spatial distance

In general, there is no geographic correlation in the spread of tourism public opinion crisis. In terms of absolute popularity, regions with a high level of Internet penetration and urbanization have a higher degree of public opinion; in terms of relative popularity, regions with a larger number of "core nodes" in the spread of microblog public opinion have a higher degree of attention. However, whether it is absolute or relative popularity, due to the flattening of Internet information dissemination, space is no longer an obstacle that restricts information transmission.

## 5. Discussion and conclusion

Through the analysis of the Guilin tourism POC, this study explored the characteristics of public opinion through the spatiotemporal perspective and the result can be concluded in to four major findings:

(1) From the time point of view, there is no definite cycle of tourism public opinion crisis, and there is an inconsistency with the theory of crisis life cycle. The cycle is short and intermittent, which is different from the traditional theory of continuous cycle.

(2) From a spatial perspective, it lacks geographic relevance. As the main opinion leaders change to Internet influencers, the geographic relevance of public opinion diffusion has gradually weakened, and the source of opinion leaders' audience has become the main factor in the distribution of public opinion diffusion.

(3) The dissipation of public opinion are not dependent on government's response to the demands. If public sentiment cannot be effectively resolved, the negative emotion will continue to accumulate and eventually form a stereotype.

(4) The tourism public opinion crisis has a "multilateral effect". The public sentiment will detonate with the occurrence of similar negative tourism-related public sentiment incident, and it has a positive correlation with the intensity of the outbreak.

The contribution of this study is the answers to two questions: (1) whether the crisis cycle has phases and (2) what are the characteristics of spatial diffusion. By digging the semantic levels of public opinion and searching for its appealing public opinion structure, this research provides guidance for the government to respond to similar incidents, and explores the existence of multilateral effect for the first time, providing a new perspective and direction for tourism public opinion crisis research.

However, our understanding of the multilateral effect still remains at preliminary stage of observation and is not reach the stage of finding the underlying causal mechanism. To further the research, the subject of multilateral effect can be explored with clarification on its theoretical structure and the degree of influence. In addition, in the context of the current outbreak of the

COVID-19 pandemic, this study can also be improved by using similar research methods to explore the process of public sentiment fluctuations and its spatial diffusion after news reports on the epidemic to serve as a guide to comfort the people during similar public emergencies.

## References

- [1] Fu Yeqin, Ji Xiaomei, Zheng Xiangmin. (2014). Research on the Evolution Mechanism of Internet Public Opinions in Tourism Crisis Events. *Journal of Jiangxi Science & Technology Normal University*, 4, 80-87.
- [2] Qi Kai, Yang Zhi. (2018). A Tripartite Game Analysis of the Evolution of Tourism Public Crisis with Government Participation. *Tourism Tribune*, 33(4):46-58.
- [3] Yu Guoming, LI Biao. (2010). China's Public Opinion Report in the First Half of 2009 (Part 2)-Public Opinion Research Based on Third Generation of Internet Search Technology. *Journal of Shanxi University*, 33(2):124-130.
- [4] Ji Hong, Ma Xiaojie. (2007). Collection, analysis and guidance of online public opinion. *Journal of Huazhong University of Science and Technology*, 22(1):1-8.
- [5] Heather Savigny. (2010). Public Opinion, Political Communication and the Internet. *Politics*, 22(1):1-8.
- [6] Qu Kaiyue, LI Xiaona, Li Wanying. (2015). Research on the Monitoring and Management Mechanism of Local Government Network Public Opinion: a case of the recent crisis of network public opinion in Nanyang City. *Editing*, (6):72-73.
- [7] Li Zheng. (2019). Thoughts and Countermeasures for the Governance of Internet Public Opinion in China from the Perspective of Big Data. *News Dissemination*, (5):18-20.
- [8] Kwon K H , Bang C C , Egnoto M. (2016). Social media rumors as improvised public opinion: semantic network analyses of twitter discourses during Korean saber rattling 2013. *Asian Journal of Communication*, 26(3):201-222.
- [9] Yu GUoming. (2013). A Big Data Method for Constructing the Overall Judgment of Social Public Opinion——Take Baidu's massive search data processing as an example. *Information Science*, (7):69-71.

- [10] Wang YIng, Gong Huaping. (2017). Analysis and Research on the Emotional Tendency of Big Data Network Public Opinions Based on the Emotional Dimension——Taking the "Nanchang University Independent Cleaning" Weibo Public Opinion Event as an Example. *Information Science*, 35(4):37-42.
- [11] Steve, F. (1986). *Crisis management:Planning for inevitable*. American Management Association
- [12] Yu Guoming. (2011). *Weibo: An Investigation of a New Form of Communication: Influence Model and Social Application*. People's Daily Press.
- [13] Han Yanan. (2012). An Analysis of the Spiral Theory of Secondary Communication and Silence in the Use of Weibo. *Information Science*, (10):24-25.

## Appendix

Table 4-1. Related topics and events on Weibo

Topic event	Topic time	Topic on Weibo	Reading( million)	Discussion
The video of the incident was exposed on the Internet.	2019/6/10	#The tour guide forces tourists to spend 20,000 in an hour#	97.29	17000
	2019/6/11	#Guilin tour guides force tourists to consume#	1.945	464
		#A female guide asks tourists to consume 20,000 in an hour#	2.165	739
		#Official Announcement about the tour guide forces tourists to spend 20,000 in an hour#	16.334	1263
The Guilin Municipal Bureau of Culture, Radio, Film and Tourism confirmed that the video was true and announced its handling opinions.	2019/6/12	#The guide licenses of who forced tourists to spend 20,000 in an hour was revoked#	0.574	28
		#The tour guide forces tourists to spend 20,000 in an hour#	0.565	42
		#Guilin guides forcing tourists to consume are exposed online#	0.167	6
		#Guilin compulsory consumer tour guide's certificate was revoked#	0.149	8
Guilin Bureau of	2019/6/1	#Guilin bans travel group shopping#	1.46	121

Culture, Radio, 8 Television and Tourism issued the "Notice on Suspending the Organization of Tourist Teams to Go to Tourist Shopping Stores for Shopping and Consumption"						
The Ministry of Culture and Tourism issued an announcement to include the involved tour guides and the general manager of the travel agency on the blacklist of the national tourism market.	2019/11/ 28	#2 people were included in the national travel market blacklist#	0.042	25000		
		#Guides who force tourists to shop are blacklisted#	37.472	3404		
	2019/11/ 29	#Guilin compulsory consumption tour guide is blacklisted#	2.817	700		

Table 4-2. The TD-IDF value of some keywords in the first public opinion escalation

keywords	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )	keywords	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )
guide	9.14	1.64	15.01	eliminate evil	1.15	2.51	2.88
Guilin	7.69	1.78	13.66	free travel	1.20	2.30	2.76
tourism	5.46	1.77	9.65	Yunnan	1.12	2.44	2.73
consumption	3.51	2.02	7.09	sweep out the underworld	0.90	2.51	2.26
shopping	2.91	2.19	6.38	Guangxi	0.75	2.77	2.07
low price group	2.12	2.59	5.50	exposure	0.74	2.74	2.04
compulsory	2.27	2.16	4.89	attraction	0.74	2.72	2.02
travel agency	1.68	2.36	3.96	arrogant	0.74	2.58	1.92
tourist	1.44	2.32	3.33	dare not	0.67	2.74	1.83
cheap	1.24	2.47	3.06	tour fare	0.64	2.77	1.78



Table 4-3. The TD-IDF value of some keywords in the second public opinion escalation

keywords	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )	keywords	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )
guide	11.43	1.53	17.44	blacklist	1.86	2.01	3.74
tourism	5.82	1.64	9.56	place	1.08	2.36	2.54
Yunnan	3.56	2.01	7.16	market	1.10	2.31	2.54
shopping	3.35	2.03	6.81	deserve it	1.02	2.46	2.52
Guilin	3.20	2.03	6.49	cheap	0.92	2.38	2.20
tourist	3.04	2.03	6.16	complaint	0.76	2.68	2.03
low price group	2.10	2.25	4.72	free travel	0.73	2.52	1.85
travel agency	1.94	2.20	4.26	scenic spot	0.70	2.64	1.85
consumption	1.88	2.18	4.11	renovate	0.71	2.54	1.81
compulsory	1.78	2.15	3.84	problem	0.59	2.86	1.70

Table 4-4. Examples of comment types

Comment types	Examples
Complaining comment	I came to Guilin to see the best landscape in the world. Isn't for this shameless guide!
Appealing comment	I hope the country will increase penalties. Who would dare to go out if there were such things every time?
Associating comment	I remember that I traveled to Guilin last year and the tour guide really had a bad attitude...
Other comments	The accent of these girls is not from Guangxi.

Table 4-5. The TD-IDF value of appealing comments

keyword	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )	keyword	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )
eliminate evil	4.22	0.97	4.10	Guilin	1.19	1.78	2.11
eliminate underground forces	3.95	1.02	4.02	travel agency	1.19	1.58	1.87
tourist	3.82	1.08	4.13	Punishment	1.19	1.52	1.81

guide							
tourism	3.56	0.99	3.51	development	1.19	1.78	2.11
people	2.90	1.48	4.29	country	1.19	1.52	1.81
daily	2.37	1.58	3.74	supervision	1.19	1.63	1.94
China	1.98	1.52	3.01	committee	1.05	1.88	1.98
strength	1.98	1.30	2.57	low price group	1.05	2.00	2.11
department	1.71	1.33	2.28	shopping	0.92	1.70	1.57
exposure	1.71	1.36	2.34	tourism	0.92	1.70	1.57

Table 4-6. The TD-IDF value of associating comments

keyword	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )	keyword	TD(*10 <sup>-2</sup> )	IDF	TD-IDF(*10 <sup>-2</sup> )
Guilin	7.39	0.39	2.88	free	0.99	1.16	1.14
tourism	4.35	0.57	2.47	scenic spot	0.99	1.24	1.22
consumption	3.69	0.70	2.57	time	0.82	1.29	1.06
shopping	3.12	0.78	2.43	last time	0.82	1.24	1.02
compulsory	2.96	0.67	1.99	day trip	0.74	1.29	0.95
Yunnan	2.79	0.79	2.21	low price	0.74	1.34	0.99
not buying	1.97	0.90	1.77	last year	0.74	1.29	0.95
local	1.89	0.90	1.70	never again	0.74	1.34	0.99
travel agency	1.23	1.34	1.65	friend	0.66	1.46	0.96
encounter	1.15	1.09	1.26	hotel	0.66	1.40	0.92

# Exploration study on the barriers to develop film-induced tourism in Hong Kong

*Hau Tung Alice Liu & Chun Man Bruce Tsui*

## **Abstract**

Film tourism is one of the highest business potentials on in HK yet with several barriers for development. This study discussed the barriers in developing film tourism and identified the importance of co-operations between stakeholders and target markets. Data was collected from 100 local and tourists. Results revealed that there is a positive relationship between film tourism and tourists, and film tourism will not be successful without the co-operation of different stakeholders. By understanding the impeded barriers and the potential target market, the government could plan and promote film tourism in a more effective approach.

**Key Words:** Film Tourism, Stakeholders' cooperation, Film Tourists, Barriers

## **1. Introduction**

With the advancement of technology, the film becomes one of the most influential cultures in the world, people nowadays could watch movies in the cinema and at home with DVDs and the Internet (Strielkowski, 2017). People watch movies with different genres without limitations and are induced to travel after watching it. Hence, there is an increasing number of countries using films as a tool to enhance tourism such as New Zealand and South Korea, as it helps promoting and raising the awareness of the destination. Local films help introducing the culture and the places to overseas audiences while international films help attracting foreigners to the destination. If managing the film tourism well, it could generate long-term benefits to the destination in economic, environmental, and social aspects (Hudson, 2011). The world is adopting this method, however, Hong Kong underrated the power of film tourism. Hong Kong has the potential to develop film tourism with its abundant amounts of unique buildings and natural landscape as well as its deep culture. Yet, lacking film productions and marketing promotions, Hong Kong is losing its advantages. Other research studies mostly focused on the development of film tourism (Reijnders & Kim, 2018) and its impacts (Tuclea & Nistoreanu, 2018; Tkalec, Zilic & Recher, 2017) as well as the motivations of visiting the destination (Singh & Best, 2004; Macionis, 2008). There is a limited number of articles talking about the barriers. In this paper, the barriers that stop Hong Kong from developing film tourism, relationship between different stakeholders and the target customers of film tourists are discussed.

### **1.1. Objective**

- 1) To identify the relationship between the government, local residents and film companies in Hong Kong film tourism
- 2) To analyze the barriers of developing film tourism in Hong Kong
- 3) To examine the relationship with demographic variables on different film tourism attributes

This study identifies the relationship between the government, local residents and film companies

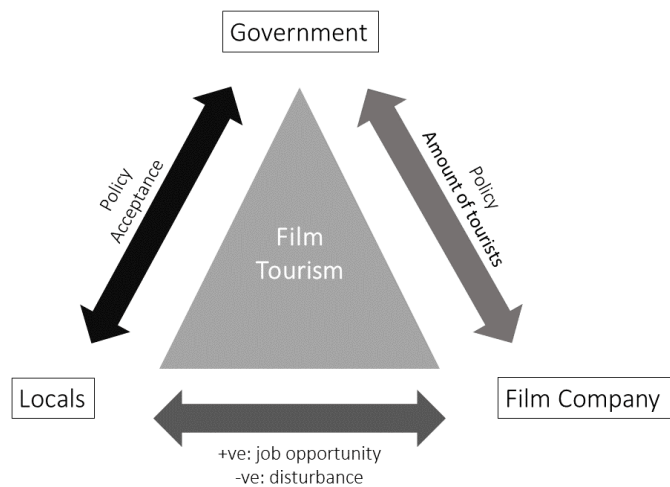
when developing film tourism in Hong Kong as well as the barriers that prevent film tourism being well-developed. The government and the film companies will be benefited from understanding their shortcomings. Also, by understanding how demographic variables affect the perception of film tourism helps to better understand the target customers of film tourists and is easier for policy setting and marketing direction.

## **2. Literature Review**

Film is one of the most popular entertainments people get in touch in their lives. People could understand a different culture and watch the landscape of the destination through films. According to Nizioł(2009) and Beeton (2008), film tourism is defined as a form of method to induce people to visit the destination that appeared on the screen. Film tourism has been one of the fast-growing forms of travel in the past decade. This phenomenon exists because of the increasing amount of destinations being featured on the screen to draw people's attention (Grihault, 2003). Films becomes an effective way to attract people's attention and raise their awareness of the destination. People who are driven to visit the destination after watching the movie are called "film-induced visitors" (Riley, Baker, & Doren, 1998). Their spending capacity is powerful based on the figures of those successful film tourism destinations. The destination appeared on the screen is more likely to succeed in developing its special tourism. Forks, Washington, U.S had a 700% increase in the number of visitors in 2008 to 2012 because of the film "The Twilight Saga" and Greece had a 50% increase in the number of visitors after the release of "Captain Corelli's Mandolin" (Strielkowski, 2017). It shows that film is a powerful factor to motivate people to visit the place and bring huge impacts to the destination.

There are positive and negative impacts in economic and social aspects caused by the unforeseeable increase in tourists because of film promotion. In the economic perspective, with the sudden increase in tourists, it brings immense revenue to the destination with the consumption of hotels, restaurants and tourist attractions. According to Nizioł (2009), a large number of bars and restaurants in New York City became destinations that should not be missed after the release of "Sex and the City". New Zealand is also benefited by the film-induced tourist with \$7 million in revenue in 2014 (Tourism New Zealand, 2019). It shows the potential of film in motivating people to travel and the economic benefits generated. In the social perspective, it creates a great number of job opportunities. There are around 2000 temporary jobs created throughout the production of films (Ramjeesingh, 2011). Also, there is an increase in businesses after the release of "Broadchurch" in the West Dorset District (Visit England, n.d). It explains that numerous job positions are created as film tourism consists of several elements such as film production, marketing and local business.

Even with the potential benefits generated, there are still various barriers existing in developing film tourism. The government, locals and film companies are important as it connects with one and others and it will affect the success of film tourism when they work together. According to Rittichainuwat (2018), the support from the locals and the government are the major factors in the success of Korean film tourism. This indicates that with the government support such as subsidies and regulations of copyrights would be beneficial for film companies to produce good quality films and to reduce their expenses. Film



companies can be sustained with investment of the government & Mordue (2001) and modified from Liu (2020) the (Olsberg, 2012). In the meanwhile, if the government grabs the chance and promotes the film at the right time, it would be able to obtain the public's attention and further develop film-related tourism. When the government successfully promotes the film and attracts tourists coming, it becomes a challenge to deal with the impacts on the locals because of the sudden increase of tourists. Mordue (2001) mentioned that locals living in a rural area are disrupted by the sudden increase of tourists and the locals think of those tourists as threats. It illustrates that film tourism will not be sustainable and successful if one of the stakeholders do not respond positively.

There are three hypotheses developed:

1. There is a positive relationship between film tourism and its tourists
2. There is a significant difference between tourists and local on the perception on film tourism development
3. The success of film tourism depends on the cooperation between government, local residents and film companies.

### 3. Methodology

To analyze the perspectives between local residents and tourists on film tourism, questionnaire was conducted that targeted both residents and tourists. It was uploaded to social media such as Facebook for respondents to complete due to the outbreak of Coronavirus. 100 questionnaires were collected between March and April 2020, with 50 questionnaires for the local and 50 questionnaires for the tourists as Sekaran & Bougie (2003) stated that sample sizes between 30 to 500 are sufficient for most research. There are three sections, in which, section I asked about the films. In section II, respondents were asked on a Likert scale the extent to which they agree about the factors on barriers and actions when developing film tourism and they were asked about the demographic section III. Section III is used to define the role of respondents as tourists or locals. The questionnaires planned to be completed in 15 minutes. Data was analyzed with SPSS system.

Descriptive analysis is used to explain the demographic characteristic of respondents. One-way ANOVA is used to analyze the differences between locals and tourists and the relationship between other variables with age. Correlation is used to examine whether there are positive or negative relationships among the perception on film tourism with different demographic variables and other attributes.

## 4. Results

### 4.1. Demographic characteristics of respondents

Table 1 describes the overall demographic characteristics of respondents. 51% are female (n=51) and 49% of male (n=49). Most respondents are of the age between 18-23 years old (n=37, 37%) and others are 24-29 years old (n=26, 26%), 30-35 years old (n=14, 14%) and 36 years old or above (n=23, 23%). 100 Respondents are divided into half with tourists (n=50, 50%) and local residents (n=50, 50%).

Table 2 describes the demographic characteristics of locals. Most respondents are living in new territories (n=31, 62%), Hong Kong (n=10, 20%) and Kowloon (n=9, 18%). 96% of locals live in Hong Kong for more than 7 years (n=48) while 4% of them live in Hong Kong for 1-7 years (n=2). For salary, most respondents get below HKD10000 (n=18, 36%), HKD10000-HKD20000 (n=13, 26%), HKD20000-HKD40000 (n=10, 20%) and HK40000 or above (n=9, 18%).

Table 3 describes the demographic characteristics of tourists. Most respondents come from North Asia (n=18, 36%), South and Southeast Asia (n=10, 20%), Europe, Africa & the middle east (n=9, 18%), America (n=9, 18%) and Australia, NZ and South Pacific (n=9, 18%). For the budget, 44% of tourists are budgeting HKD5000-HKD7000 (n=22), 24% are below HKD5000 (n=12), 24% are HKD7000-HKD10000 (n=12) and 8% are over HKD10000 (n=4). For the travel purpose, 62% of tourists are with the purpose for sightseeing (n=31), 56% are for entertainment (n=28), 54% are for shopping (n=27) and 14% are for other purposes (n=7). For travel companions, 44% of respondents are with friends (n=22), 24% are travel alone (n=12), 22% are with family (n=11) and 10% are with spouse or partners (n=5). For visit frequency, 60% of respondents visit Hong Kong for more than once (n=30) and 20% are the first-time visiting Hong Kong (n=20).

**Table 1:** Overall Demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Gender:		
Male	49	49%
Female	51	51%
Age:		
18-23	37	37%
24-29	26	26%

30-35	14	14%
36 or above	23	23%
Origin:		
Local	50	50%
Tourist	50	50%

**Table 2: Demographic Characteristics of Local**

Characteristics	Frequency	Percentage (%)
Living Districts:		
New Territories	31	62%
Hong Kong	10	20%
Kowloon	9	18%
Resident years		
1-7 Years	2	4%
More than 7 years	48	96%
Salary:		
Below HKD10000	18	36%
HKD10000-HKD20000	13	26%
HKD20000-HKD40000	10	20%
HKD40000 or above	9	18%

**Table 3: Demographic Characteristics of Tourists**

Characteristics	Frequency	Percentage (%)
Nationality		
North Asia	36	36%
South & Southeast Asia	18	18%
Europe, Africa & the middle east	20	20%
America	18	18%
Australia, NZ and South Pacific	8	8%
Budget:		
Below HKD5000	12	24%

HKD5000-HKD7000	22	44%
HKD7000-HKD10000	12	24%
Above HKD10000	4	8%
Travel Purpose		
Shopping	27	54%
Entertainment	28	56%
Sightseeing	31	62%
Others	7	14%
Travel Companions		
Alone	12	24%
Family	11	22%
Friends	22	44%
Spouse or partners	5	10%
Visit Frequency		
First time	20	40%
More than once	30	60%

---

#### *4.2.ANOVA result of attributes by origin*

Table 4 explains the mean difference of attribute between locals and tourists. There was a significant difference between local and tourist for interest in visiting movie scene ( $F(1, 98) = 4.72, p = 0.03$ ). The results from ANOVA showed that tourists had higher interest in visiting places which have been in films compared to locals.

There is a significant difference for motivation to visit the destination [ $F(1,98) = 5.10, p = 0.03$ ]. Tourists (mean = 3.72) had higher motivation to visit the destination after watching the movie compared to local (mean = 3.26).

There is a significant difference for Hong Kong film potentiality [ $F(1,98) = 4.30, p = 0.04$ ]. More tourists (mean = 3.84) believed that the popularity of Hong Kong films is the potential part of Hong Kong when developing film tourism compared to local (mean = 3.38).

There is a significant difference for future development barrier [ $F(1,98) = 5.42, p = 0.02$ ]. More tourists (mean = 3.78) believed that planning for future development is the largest barrier compared to local (mean = 3.38). There is a significant difference for budget barrier [ $F(1,98) = 6.41, p = 0.01$ ]. More locals (mean = 4.02) believed that budget in film making is the largest barrier for the film company compared to tourists (mean = 3.48).

There is a significant difference for subsidies measure [ $F(1,98) = 6.33, p = 0.01$ ]. Tourists (mean =



3.90) have higher acceptance of increasing subsidies on supporting the film industry compared to local (mean = 3.46).

**Table 4:** ANOVA Tests on attributes by Origin

Attributes	Means by Origin		<i>F</i> -ratio	ANOVA (Sig. value)	Comparison
	Local	Tourist			
Interest in visiting movie scene	<b>3.52</b>	<b>3.96</b>	<b>4.72</b>	<b>.03</b>	
Motivation to visit the destination	<b>3.26</b>	<b>3.72</b>	<b>5.10</b>	<b>.03</b>	
Hong Kong film potentiality	<b>3.38</b>	<b>3.84</b>	<b>4.30</b>	<b>.04</b>	
Future development barrier	<b>3.38</b>	<b>3.78</b>	<b>5.42</b>	<b>.02</b>	
Budget barrier	<b>4.02</b>	<b>3.48</b>	<b>6.41</b>	<b>.01</b>	
Subsides measure	<b>3.46</b>	<b>3.90</b>	<b>6.33</b>	<b>.01</b>	

\* $p < 0.05$ , \*\* $p < 0.01$

#### *4.3. ANOVA result of attributes by age*

Table 5 and 6 explains the mean difference of attributes by different age groups. There was a significant difference in interest in visiting movie scene [ $F(3,96) = 4.72$ ,  $p = 0.00$ ] between different age groups. The Tukey test was carried out. There was a significant difference between age 18-23 and age over 36 ( $p = 0.01$ ) with people age 18-23 are more likely to visit the movie scene than those age over 36 ( $MD = 0.86$ ).

There was a significant difference in motivation in information search [ $F(3,96) = 4.75$ ,  $p = 0.00$ ] between age over 36 and age 18-23 and 24-29 ( $p = 0.01$ ) with people age over 36 are less likely to search for information about the destination than those age between 18-29 ( $MD = -0.83$ ,  $MD = -0.90$ ).

There was a significant difference in stakeholders' interest barrier [ $F(3,96) = 3.54$ ,  $p = 0.02$ ] between age 18-23 and 24-29 ( $p = 0.03$ ) with people aged 18-23 thinking balancing different stakeholders' interests is the largest barrier than those age 24-29 ( $MD = 0.67$ ). There was a significant difference in disturbance barrier [ $F(3,96) = 2.94$ ,  $p = 0.04$ ] between age 30-35 and age over 36 ( $p = 0.02$ ) with people age over 36 are more likely to think disturbances of daily life is the largest barriers than those age over 36 ( $MD = 1.06$ ).

**Table 5.** ANOVA Tests on attributes by age

Attributes		Means by Age				F-ratio	ANOVA (Sig. value)	Comparison
		18-23 (1)	24-29 (2)	30-35 (3)	36 or above (4)			
Interest visiting scene	in movie	4.08	3.92	3.36	3.22	4.72	.00	
Motivation information search	in	3.70	3.77	3.50	2.87	4.75	.00	
Stakeholders' interest barrier		4.14	3.46	3.57	3.52	3.54	.02	
Disturbance barrier		3.91	3.69	3.07	4.13	2.94	.04	

\* $p < 0.05$ , \*\* $p < 0.01$

**Table 6.** Tukey HSD Tests on attributes by age

Dependent Variable		Mean Difference (I-J)		Sig.
Interest visiting scene	in 18-23 movie	24-29	0.16	.92
		30-35	0.72	.09
		36 OR ABOVE	.86*	.01
Motivation information search	in 36 OR ABOVE	18-23	-.83*	.01
		24-29	-.90*	.01
		30-35	-0.63	.20
Stakeholders' interest barrier	18-23	24-29	.67*	.03
		30-35	0.56	.23
		36 OR ABOVE	0.61	.07
Disturbance barrier	36 OR ABOVE	18-23	0.32	.67
		24-29	0.44	.48
		30-35	1.06*	.02

\*. The mean difference is significant at the 0.05 level.

#### 4.4.Descriptives on barriers

Table 7 presents the major barriers in both tourists and locals' viewpoints. Importance of co-operation of stakeholders has the highest mean score (n=100, M=4.19), however, it is not counted as a barrier. Barriers count from barrier 2 to 10. Hence, the most important barrier is budget barrier (n=100, M=3.75). The second important barrier is stakeholders' interest barrier (n=100, M=3.74). The third important barrier is target market barrier (n=100, M=3.63). The fourth barrier is shooting place barrier (n=100, M=3.59).

**Table 7** Descriptives on barriers

	N	Mean	Std. Deviation
1. IMPORTANCE OF CO-OPERATION OF STAKEHOLDERS	100	4.19	.84
2. STAKEHOLDERS' INTERESTS BARRIER	100	3.74	.97
3. INVESTMENT BARRIER	100	3.39	1.07
4. FUTURE DEVELOPMENT BARRIER	100	3.58	.88
5. TARGET MARKET BARRIER	100	3.63	1.00
6. SHOOTING PLACES BARRIER	100	3.59	.99
7. BUDGETS BARRIER	100	3.75	1.10
8. DISTURBANCES BARRIER	100	3.56	.99
9. INFLATION BARRIER	100	3.20	1.11
10. WELFARE BARRIER	100	3.07	1.001

*a. Correlations among variables*

Table 8 shows the correlations among variables. For age, there was a negative correlation with the interest in visiting movie scene,  $r = -0.35$ ,  $n = 100$ ,  $p = 0.00$ . Increases in age were correlated with decreases in rating of motivation to visit the movie scene. There were also negative correlations with motivation in information search ( $r = -0.32$ ,  $n = 100$ ,  $p = 0.00$ ) and motivation to visit the destination ( $r = -0.24$ ,  $n = 100$ ,  $p = 0.02$ ). Increases in age were correlated with decreases in motivation to search information and visit the destination after watching the movie.

For the motivation to visit film scene, there were positive correlation with natural scenery ( $r = 0.253$ ,  $n = 100$ ,  $p = 0.01$ ), historical building ( $r = 0.32$ ,  $n = 100$ ,  $p = 0.00$ ) and artificial scenery ( $r = 0.20$ ,  $n = 100$ ,  $p = 0.04$ ). Increased interest in natural scenery, historical building and artificial scenery were correlated with increases in motivation to visit the movie scene. There were also positive correlations with motivation in information search ( $r = 0.55$ ,  $n = 100$ ,  $p = 0.00$ ) and motivation to visit the destination ( $r = 0.57$ ,  $n = 100$ ,  $p = 0.00$ ). Higher motivation to search information and visit the destination after watching the movie were correlated with increases in motivation to visit the movie scene.

For the interest in historical buildings, there was a positive correlation with the importance of government ( $r = 0.22$ ,  $n = 100$ ,  $p = 0.03$ ). Higher interest in historical building was correlated with higher belief in the importance of government in film tourism. There were also positive correlations with importance of co-operation of stakeholders ( $r = 0.02$ ,  $n = 100$ ,  $p = 0.03$ ), investment barrier ( $r = 0.26$ ,  $n = 100$ ,  $p = 0.01$ ) and disturbance barrier ( $r = 0.25$ ,  $n = 100$ ,  $p = 0.01$ ). Higher interest in historical building was correlated with higher degree of thinking of the importance of stakeholders' cooperation and money investment and life disturbance as major barriers in film tourism.

**Table 8. Correlations among variables**

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 AGE																
2 DEMO10	.01															
3 EXPORSURES1	-.35**	.09														
4 EXPORSURES2	.20*	.30**	-.19													
5 EXPORSURES4	.19	.23*	-.18	.48**												
6 EXPORSURES5	.17	-.24*	.11	-.27**	-.51**											
7 ATTRACT1	-.01	-.11	.25*	-.21*	-.17	.20*										
8 ATTRACT2	-.02	.09	.32**	-.13	-.26**	.11	.48**									
9 ATTRACT3	-.13	.	.20*	-.24*	-.17	.05	.38**	.40**								
10 MOTIVA1	-.32**	.	.55**	-.25*	-.16	.17	.43**	.44**	.31**							
11 MOTIVA2	-.24*	.07	.57**	-.14	-.05	.13	.41**	.42**	.31**	.62**						
12 POTENTIAL2	-.16	.1	.24*	-.21*	-.13	-.03	-.01	.24*	.24*	.32**	.28**					
13 PERCEPTION2	-.11	.1	.33**	-.25*	-.11	.07	.08	.22*	.19	.38**	.24*	.40**				
14 BARRIER1	-.05	-.06	.29**	-.20*	-.09	.24*	.19	.22*	.	.43**	.37**	.11	.40**			
15 BARRIER3	.	.	.17	-.28**	-.26**	.03	.33**	.26**	.18	.18	.24*	.15	.09	-.05		
16 BARRIER6	.09	.01	.04	.01	-.08	.28**	.06	-.21*	-.02	.08	.11	-.04	-.08	.01	.08	
17 BARRIER8	-.09	-.08	.25*	-.23*	-.12	.09	.30**	.25*	.16	.40**	.28**	.09	.19	.31**	.23*	.05

Note. N = 100.

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Note.

Coding of variables is attached in Appendices

For the hypotheses, there are significant results on H1 between tourist motivation and film tourism. Based on r from the correlation, there are positive correlations on motivation and film tourism. For H2, there are significant differences on six attributes between locals and tourists as the p values are lower than 0.05. Tourists have higher mean scores than locals in most attributes which indicated that tourists are comparatively positive on film tourism than locals. For H3, as mean scores showed that the importance of all stakeholders' cooperation is critical. It shows that all respondents believed that cooperation between all stakeholders are extremely important.

A summary of hypotheses results is listed on table 9.

**Table 9. hypotheses result**

Hypotheses	Result
1. There is a positive relationship between Film tourism and its tourists	Accepted
2. There is a significant difference between tourists and local on film tourism	Accepted

---

3. The success of film tourism depends on the cooperation between government, residents and film companies. Accepted

---

## 11. Discussions and Conclusion

### *a. Major barriers*

The balance of stakeholders' interest, target market of local films, availability of shooting places and budget in film making are the top four barriers rated by all respondents. There are three barriers related to the film companies which are the target market of local films, availability of shooting places and budgets in film making. Only one barrier is related to the government which is balancing different stakeholders' interests. It indicated that film companies are facing more challenges than other stakeholders.

For the budget, it is hard for film companies to obtain money investments. According to Chow (2015), most small to medium film companies are facing the difficulty to find investors as their productions are treated as high risk productions. As there are various components included in film making, the production opportunity will be limited with the limited budget. It showed that there is no increase in local film productions while there is an 8% increase in foreign films (Hong Kong Trade Development Council, 2019). Budget includes money needed from pre-filming to post-filming, without enough money, it is hard for film companies to have postproduction like computer graphics. Even the government has been dedicated to help the film industry by setting up the Film Development Fund (FDF) aiming to provide financial assistance to small to medium film companies (Hong Kong Film Development Council, 2020a). However, there are only 12 local films that are approved and received the assistance (Hong Kong Film Development Council, 2020b). With the strict restriction of the fund, it is not easy for companies to obtain support from the government and the problem still exists.

For the target market of local films, Hong Kong movies are not as appealing as they used to be. 1980 to 1990s is the major period for Hong Kong movies. However, with the rise of foreign movies, locals and overseas audiences are changing their preferences to foreign movies rather than Hong Kong movies since the 1990s (Cheung, 2016). It shows that local films are no longer attractive, and it is challenging to promote it to locals and even the potential target. Without a budget and attractive cast, Hong Kong cannot maintain its attractiveness against foreign movies (Cheung, 2016). As foreign movies offer different genres with many computers and visual effects, it caused most audiences to switch the taste from local films to foreign movies (Chiu, 2010). It further restricts the possibility to develop film tourism as most people are no longer attracted to watch Hong Kong films.

For the availability of shooting places, Hong Kong is too crowded for shooting in public. Numerous places in Hong Kong are full of the Hong Kong vibe such as temple street, ladies' market and Lan Kwai Fong. However, most of the famous shooting places in Hong Kong are located nearby residential areas. Take La La Land as an example, there was a highway dancing scene in the movie which was shot on the actual highway in California. Highway 710 was shut down twice a month for the film shooting and it caused traffic (NBC, 2015). The crew also had to tackle the residents as they brought inconveniences to the community by blocking the road and creating noise by playing the music loud (Miller, 2017). When the film needs to be shot in public,

it will cause various inconveniences to the public and it would be a huge consideration for film companies. In a small city like Hong Kong, it is hard to find suitable filming locations that would not affect the locals.

Besides those barriers mentioned above, the disturbance is also an important barrier. Promoting film tourism in Hong Kong would create various disturbances. Take Monster Mansion as an example, it is a complex residential building which became popular after the release of “Transformers: Age of Extinction”. Many tourists are attracted to visit there and take photos. With the sudden increase of tourists visiting the scene cause inconveniences to locals as this is the residential area (South China Morning Post, 2018). Hence, there are notices posted to ban tourists from taking pictures inside the building (Coconuts Hong Kong, 2018). It shows that even there are famous movie places in Hong Kong, with disturbance to locals, it is hard for Hong Kong to develop film tourism in the long run.

#### *b. Importance of stakeholders' cooperation*

Table 7 shows that most respondents think that it is important for all stakeholders to work together when developing film tourism. Film tourism cannot be better developed if one of the stakeholders do not cooperate. Take historical buildings as a film scene as an example as table 8 shows that there are positive correlations in the importance of stakeholders' cooperation and money investment and life disturbance with the interest in historical building. People who are attracted to historical buildings perceive that cooperation of all stakeholders are important. Willingness and mutual understanding are critical to prevent conflicts in developing tourism (Bąkiewicz, Leask, Barron & Rakić, 2017). Film companies tend to use historical buildings as film scenes and further attract tourists to visit. Stakeholders' cooperation is extremely important after the stage which the film attracted tourists to visit. Take China Cafe as an example, it is a popular movie scene as there are numerous movies shot there, however, the cafe is closed as the government needs to tear down the old building (Chin, 2019). When the government is focusing on city planning instead of building conservation, it is hard to preserve those traditional buildings. Local acceptance is also important as film tourism will cause an unforeseeable increase of tourists (Bąkiewicz, Leask, Barron & Rakić, 2017). Monster Mansion would be the example of local acceptance. If locals could not bear with the disturbance, it will limit the chance to develop film tourism. Yet, there is a successful case in Hong Kong which is the Wing Lee Street. It is the scene in Echoes of the Rainbow and successfully preserved and transformed by the government because of the local and media reports. It became one of the famous attractions in Hong Kong.

#### *c. Demographic of potential market*

The potential film tourism market would be the young tourists coming from North Asia. Table 3 presented that most tourists are coming from Asia. Also, the data from the Hong Kong Tourism Board (2019) shows that Asia contributed to 10.1% of tourists' arrival excluding 77% of tourists from Mainland from the past 7 years. It presents Asia is a potential target market in the future. As for the young age group, table 5 and 6 shows that people aged 18-23 are more likely to visit the movie scene than those over 36. Besides, table 8 resents that the older the people, the less likely they are motivated for information search, visit the destination and the movie scene.

By understanding the demographic of the potential market, the government and film companies

could be able to promote film tourism more effectively.

*d. Significance of the study*

This study is crucial to Hong Kong film tourism development as it illustrates the barriers of developing film tourism and provides insight into the restrictions that prevent Hong Kong from developing new tourism. Government, film companies and researchers who are interested in film tourism would read this research to understand the possible reasons that minimizing the chance to develop this tourism. It would be helpful for the government in planning and developing film tourism as well as understanding the importance of co-operation with different stakeholders.

## References

- Bąkiewicz, J., Leask, A., Barron, P., & Rakić, T. (2017). Management challenges at film-induced tourism heritage attractions. *Tourism Planning & Development*, 14(4), 548-566.
- Beeton, S. (2008). From the screen to the field: the influence of film on tourism and recreation. *Tourism Recreation Research*, 33(1), 39-47.
- Cheung, C, F. (2016). Challenges of the film industry in Hong Kong. Research Publication. Retrieved from <https://www.legco.gov.hk/research-publications/english/essentials-1516ise13-challenges-of-the-film-industry-in-hong-kong.htm>
- Chin, L, K. (2019). [Chinese Cafe] "PTU" scene becomes a classic inventory, 8 memories that have disappeared. Retrieved from <https://www.hk01.com/%E9%9B%BB%E5%BD%B1/409569/%E4%B8%AD%E5%9C%8B%E5%86%B0%E5%AE%A4-ptu-%E5%A0%B4%E6%99%AF%E6%88%90%E7%B6%93%E5%85%B8-%E7%9B%A4%E9%BB%9E8%E9%96%93%E5%B7%B2%E6%B6%88%E5%A4%B1%E7%9A%84%E8%8C%B6%E8%A8%98%E5%9B%9E%E6%86%B6>
- Chiu, Y. W. (2010). One Country Two Cultures? Post-1997 Hong Kong Cinema and Co-productions. *Hong Kong Culture: Word and Image*. Hong Kong University Press. Retrieved from <http://www.jstor.org/stable/j.ctt1xcrv0>

- Chow, V. (2015). Lights, camera, funding: Hong Kong filmmakers to get up to HK\$2m from government for low-budget features. South China Morning Post. Retrieved from <https://www.scmp.com/news/hong-kong/education-community/article/1877218/lights-camera-funding-hong-kong-filmmakers-get>
- Coconuts Hong Kong. (2018). ‘No pictures please’: Residents of Instagram hotspots want you to stop taking photos of their home. News. Retrieved from <https://coconuts.co/hongkong/news/no-pictures-please-residents-instagram-hotspots-want-stop-taking-photos-home/>
- Grihault, N. (2003) Film tourism: The global picture. *Travel and Tourism Analyst* 5(1): 21.
- Hong Kong Film Development Council. (2020a). Film Production Grant Projects. Approved Projects. Retrieved from [https://www.fdc.gov.hk/en/projects/film\\_production\\_grant\\_projects.htm](https://www.fdc.gov.hk/en/projects/film_production_grant_projects.htm)
- Hong Kong Film Development Council. (2020b). Objective. Overview. Retrieved from <https://www.fdc.gov.hk/en/services/services2.html>
- Hong Kong Trade Development Council. (2019). Film Entertainment Industry in Hong Kong. HKTDC Research. Retrieved from <https://hkmb.hktdc.com/en/1X0018PN/hktdc-research/Film-Entertainment-Industry-in-Hong-Kong>
- Hudson, S. (2011). Working together to leverage film tourism: Collaboration between the film and tourism industries. *Worldwide Hospitality and Tourism Themes*, 3(2), 165-172.  
doi:<http://dx.doi.org.libproxy.cpcepolyu.edu.hk/10.1108/17554211111123023>
- Macionis, N. (2008). *Film-induced Tourism: The Role of Film as a Contributor to the Motivation to Travel to a Destination*. Griffith University.
- Miller, J. (2017). The Secrets of Filming at La La Land’s Distinctive Locations. Vanity Fair.



- Retrieved from <https://www.vanityfair.com/hollywood/2017/02/la-la-land-locations>
- Mordue, T. (2001). Performing and directing resident/tourist cultures in a heartbeat country. *Tourist Studies*, 1, 233-252.
- NBC. (2015). Hollywood Films, Viral Videos Close Freeways In LA County. Driver. Retrieved from <https://www.nbclosangeles.com/news/local/hollywood-films-viral-videos-close-freeways-in-la-county/2001041/>
- Nizioł, A. (2009). Film tourism as a new way to market a destination. *Scientific Review of Physical Culture*, 5, 155.
- Olsberg/SPI. (2012). Building sustainable film businesses: the challenges for industry and government. Olsberg/SPI.
- Ramjeesingh, D. (2011). Film tourism: A global perspective. *Ideaz*, 9, 24-37. Retrieved from <http://lib.cpce-polyu.edu.hk/docview/1498933818?accountid=37289>
- Reijnders, S., & Kim, S. (2018). Film tourism in Asia: evolution, transformation and trajectory.
- Riley, R., Baker, D., Doren, C. S. (1998). Movie Induced Tourism. *Annals of Tourism Research*, Vol. 25(4), p. 919–935.
- Rittichainuwat, B. N. (2018). *Special Interest Tourism*. Cambridge Scholars Publishing.
- Şahbaz, P., Kılıçlar, A. (2009). Effects of Films and Television Dramas on Destination Image. *İşletme Araştırmaları Dergisi*, Vol. 1(1), p. 31–52.
- Sekaran, U., & Bougie, R. (2003). *Research Methods For Business, A Skill Building Approach*, John Willey & Sons. Inc. New York.
- South China Morning Post. (2018). Photo ban at one of Hong Kong's most unconventional tourist hotspots. Hong Kong. Retrieved from <https://www.scmp.com/photos/hong-kong/2131892/photo-ban-one-hong-kongs-most-unconventional-tourist-hotspots?page=7>

- Singh, K., & Best, G. (2004, November). Film-induced tourism: Motivations of visitors to the Hobbiton movie set as featured in The Lord of the Rings. In *International tourism and media conference proceedings* (Vol. 24, pp. 98-111). Tourism Research Unit, Monash University: Melbourne, Australia.
- Strielkowski, W. (2017). PROMOTING TOURISM DESTINATION THROUGH FILM-INDUCED TOURISM: THE CASE OF JAPAN. *Trziste = Market*, 29(2), 193-203.  
doi:<http://dx.doi.org.libproxy.cpepolyu.edu.hk/10.22598/mt/2017.29.2.193>
- Tkalec, M., Zilic, I., & Recher, V. (2017). The effect of film industry on tourism: Game of Thrones and Dubrovnik. *International Journal of Tourism Research*, 19(6), 705-714.
- Tourism New Zealand. (2019). Film Tourism. Retrieved from <https://www.tourismnewzealand.com/markets-stats/sectors/film-tourism/>
- Tuclea, C., & Nistoreanu, P. (2011). How film and television programs can promote tourism and increase the competitiveness of tourist destinations. *Cactus Tourism Journal*, 2(2), 25-30.
- Visit England. (n.d.). Film Tourism: What is it, and how can you maximise the benefits?. Retrieved from <https://www.filmresearch.org/pdf/315.pdf>

## Appendices

---

Table 10. Code of attributes

DEMO10	Travelling to Hong Kong with entertainment purpose
EXPORSURES1	Interest in visiting the movie scene
EXPORSURES2	Did you watch foreign films shot in Hong Kong?
EXPORSURES4	Did you watch films made in Hong Kong?
EXPORSURES5	Frequency of movie shot in Hong Kong
ATTRACT1	Natural scenery
ATTRACT2	Historical building
ATTRACT3	Artificial scenery
MOTIVATION1	Motivation of information search
MOTIVATION2	Motivation to visit the destination

POTENTIAL2	Popularity of Hong Kong films
PERCEPTION2	Importance of government in developing film tourism
BARRIER1	Importance of co-operation of stakeholders
BARRIER3	Investment barrier
BARRIER6	Shooting places barrier
BARRIER8	Disturbance barrier

---

# Residents' attitude explained by emotional well-being, emotional solidarity: the moderation of community attachment

*Jiahui Wang & Sujie Wang*

## Abstract

This study examined the interactions among residents' emotional solidarity, community attachment, emotional well-being, and residents' attitude toward tourism development. 345 questionnaires were collected in Jinan, China. The results indicated that emotional solidarity directly influences emotional well-being and residents' attitude, while emotional well-being positive affects resident's attitude. In addition, findings also showed that emotional well-being partially mediates the positive effect of emotional solidarity on the resident's attitude. Finally, the level of residents' community attachment moderates the direct effect of sympathetic understanding on emotional well-being. Both practical and theoretical implications are discussed as well.

**Keywords:** Emotional solidarity, Community attachment, Emotional well-being, Residents' attitudes

## 1. Introduction

In the past few decades, numerous literatures have been focusing on residents' attitudes towards tourism because of its important role in achieving sustainable tourism development. More specifically, residents' attitude regarding local tourism development could be affected by, for example, residents' perceived tourism benefits, their quality of life and their relationship with tourists (Perdue, Long, & Kang, 1999; Andriotis & Vaughan, 2003; Woosnam, 2012). Quality of life is one of the notable antecedents of residents' attitude (Kay & Diekmann, 2017). Zhong and Mitchell (2010) argued that if residents enjoyed a high level of quality of life-, they would take a positive attitude towards the local tourism development. There is an obviously growing body of research exploring the residents' material well-being (Rivera, Croes, & Lee, 2016), but residents' non-material well-being has not attracted enough attention (Vinzencz et al., 2019). Emotions play an important role in generating human health and are vital for individual's psychological well-being (Jiang, Ramkissoon, & Mavondo, 2016). In this sense, investigating the explanatory power of wellbeing on residents' attitude toward tourism from an emotional perspective is needed.

A harmonious host-guest relationship can lead to stronger sense of well-being and positive attitude toward tourism development. Residents' close friendships with visitors could influence residents' perceived benefits and costs (Woosnam, & Aleshinloye, 2018), and those perceived impacts brought by tourism could further influence residents' life satisfaction (Ouyang, Gursory, & Chen, 2019). In addition, residents' interaction with visitors could also influence their willingness to develop tourism in local (Woosnam, 2011a). Thus, it would be better for understanding of residents' attitude by combining emotional solidarity into the framework.

Human-place relationship is also widely discussed in the literature and still the popular research areas as the significant links between residents and destinations (Lee, Kyle, & Scott, 2012). Ramkissoon et al.'s (2017) confirmed that a person's level of social ties in a region is relevant to his attachment to the region, in their research of a national park located in Australian. Similarly, Woosnam et al (2018b) suggested that place attachment could affect the host-guest relationship

such as emotional solidarity Arnberger and Eder (2012) found that individual psychological well-being is closely linked to their attachment to place. It might be helpful for understanding the way of community attachment to enhancing emotional solidarity and quality of life by investigating the moderation effect of community attachment on the relation between emotional solidarity and emotional well-being.

## **2. Literature Review**

### *2.1. Residents' Attitude*

Attitude, as defined by Kotler et al. (2004), is the relatively consistent feelings, evaluations and tendencies or an idea, which a person has toward a specific object. In tourism fields, resident's attitude toward tourism regarded as the overall decision or emotional response when residents faced tourists or tourism (Lee, 2008). Many studies used social exchange theory (SET) and relevant theories to illustrate the connection between residents and tourism development. SET argue that individuals or groups usually are willing to engage in an exchange based on their perceived benefits and costs. If people think that the transaction produced a "reward", they will enter the exchange (Kivisto, 2011). The reward here could be affection among residents and visitors (Turner & Ash, 1975). Thus, when residents of destination recognize the emotional interactions and links with tourists, they are likely to exchange in tourism and support the tourism development. For instance, studies found that residents' engagement with tourists will form a relationship which helps to maximize benefits and minimize costs (Woosnam, 2011b). When residents recognize more benefits rather costs from tourism, they will support the tourism development (Chen & Raab, 2012; Huttasin, 2008). In this sense, if the importance of tourism impacts perceived by residents is recognized, the current study needs to consider broader tourism impacts, such as residents' well-being, host-guest relation and human-place relation.

### *2.2. Emotional Solidarity*

Emotional solidarity was original proposed in Emile Durkheim's literary work *The Elementary Forms of the Religious Life*. The book treats solidarity in emotion as the cohesion of a single person within the group which can be reflected through ritualistic behaviors and deep beliefs (Durkheim, 1915). Jacobs and Allen (2005) considered it as the sense of solidarity that uniting individuals together when creating a "we" sentiment rather than "me versus you" view. In tourism literature, emotional solidarity is usually used to put forth model or compare emotional linkage between destination residents and visiting tourists. In 2009, Woosnam et al. developed an Emotional Solidarity Scale (ESS) based on the work of Durkheim, and tested its psychometric properties. According to Woosnam, emotional solidarity has three significant predictors, namely, shared belief, shared behaviors and interaction, which are correspond to welcoming nature, sympathetic understanding, and emotional closeness (Woosnam, 2010). ESS has become a means to appraise the emotion harmony among community dwellers and visitors to destinations (Woosnam & Aleshinloye, 2018).

Researches in tourism revealed that residents who keep harmonious social relationship with visitors are more willing to support for tourism development, whereas ones that have bad relations would take negative attitude toward tourism industry (Woosnam & Aleshinloye, 2018). According

to previous studies, emotional closeness between locals and visitors does not directly affect residents' opinion toward tourism development. But Woosnam also found that residents who have emotional closeness to tourists have recognized individual benefits brought by tourism (Woosnam & Aleshinloye, 2018), and perceived benefits could contribute for residents to form a supportive attitude regarding tourism. To clarify the predictive power of emotional solidarity, this study suggests that emotional closeness may directly predict residents' attitudes. Sympathetic understanding could be achieved among residents and tourists when they "put themselves in the shoes of one another", in the context of tourism, this is manifested by that local people show willingness to share amenities with tourists (Woosnam, 2011b; Kohn, 1997). Woosnam's (2012) pointed that residents' level of sympathetic understanding toward tourists significantly predict locals' extent of supporting for tourism industry. Therefore, it seems that if residents have higher degree of sympathetic understanding with visitors, they would tend to take a more supportive attitude about tourism. Welcoming nature is statistically significant in predicting residents' attitude in the studies of Woosnam. Those residents who are willing to accept tourists have been aware of the community benefits produced by tourism industry, thus they will hope to see tourism boom in their areas. According to the discussion above, community residents would support the development of tourism when they maintain a high degree of emotional solidarity with tourists. Therefore, this study hypothesises that:

*Hypothesis 1:* Emotional solidarity with tourists([a]emotional closeness; [b] sympathetic understanding; and [c] welcoming nature) positively influences residents' attitude.

### *2.3. The Mediator: Emotional Well-being*

Relevant researches combine well-being and emotions together to offer important insights. According to the opinion of Keyes, the positive feelings and emotions are part of well-being, thus hedonic dimension of well-being is exactly emotional well-being (Keyes, 2014). Emotional well-being is composed of leisure life and spiritual life, so individuals who enjoy a higher spiritual life or feel relaxed usually tend to have high level of emotional well-being (Kim, 2002).

Even if considered residents' emotional solidarity as the precedent of QOL has not attracted enough attention yet, it can be assumed that residents' emotional solidarity could possibly have a positive effect on their well-being. Social bonding and "we-relationship" can enhance a group's quality of life domains in a long term (Jepon, Stadler, & Spencer, 2019). Therefore, when residents engage themselves with tourists and form a "we-relationship" or produce a sense of solidarity toward tourists, this would definitely make contribution to improve residents' perceived emotional well-being.

Existing literature has confirmed that residents' well-being in emotion would significantly affect corresponding attitude towards tourism (Nicholas, Thapa, & Ko, 2009; Nawijn & Mitas, 2012; Su, Huang, & Huang, 2018). For instance, a study conducted in two casino communities at South Korea by Lee et al. (2018) indicated that residents' QOL positively influenced residents' support intention for casino tourism development. Their findings also shown the mediating effect of residents' QOL. Similarly, a study concerning medical tourism conducted in Las Vegas revealed that residents' community wellbeing positively influenced their opinion about medical tourism

development in local (Suess, Baloglu, & Busser, 2018). Moreover, a recent study focusing on sustainable tourism conducted by Vinzenz et al. (2019) reported that when customers perceived higher emotional well-being, they are willing to book the advertised sustainable hotel. That is, from tourists' perspective, emotional well-being will positively affect their way of looking at sustainable tourism development. According to the discussion above, we can conclude that people who live in tourism destination and possess better relationship usually have a higher level of emotional well-being and happiness. Moreover, they tend to hold positive thought about tourism development and act in concert with relative policies in the future.

*Hypothesis 2:* Emotional solidarity ([a]emotional closeness; [b] sympathetic understanding; and [c] welcoming nature) is positively related to emotional well-being.

*Hypothesis 3:* Emotional well-being positively influences residents' attitude.

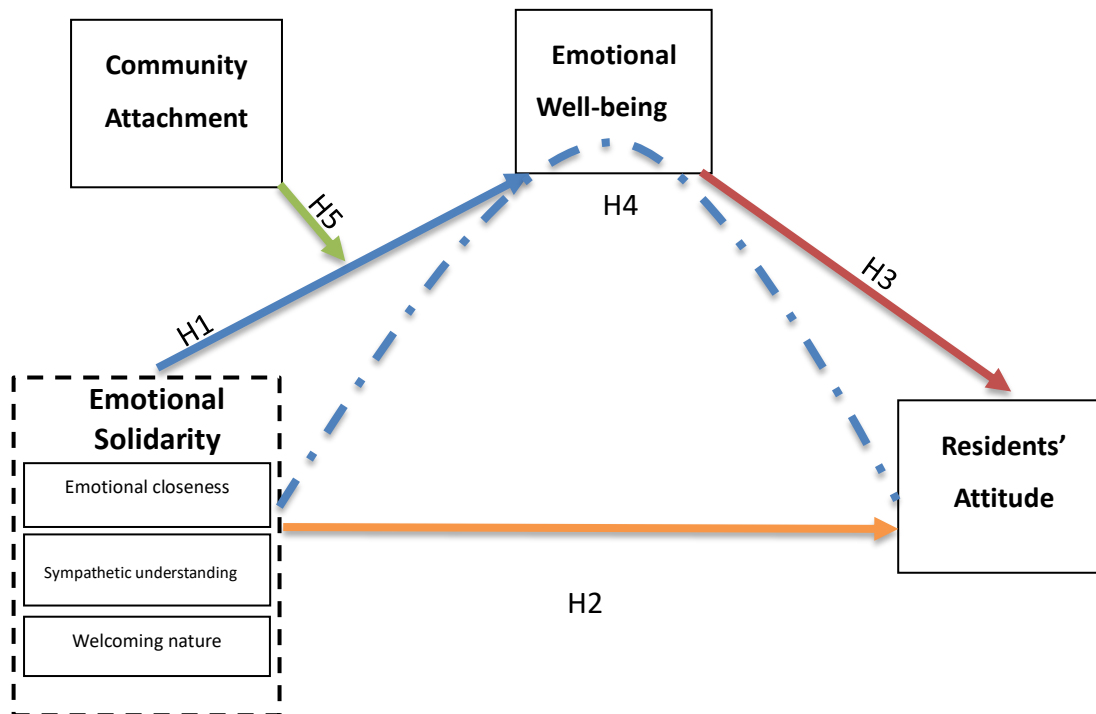
*Hypothesis 4:* Emotional well-being will mediate the effect of emotional solidarity ([a]emotional closeness; [b] sympathetic understanding; and [c] welcoming nature) on residents' attitude.

#### *2.4. The Effect of Community Attachment*

Community attachment is often referred to the extent of an individual engaging in a community and feelings to the community (Kasarda & Janowitz, 1974). In a sense, as McCool and Martin suggested, it represents a person's social involvement and the integration extent of community life, and which can also reflect the emotional connection or affective bond between the individual and a specific community. In tourism studies, numerous researches have confirmed and tested the association between residents' community attachment, emotional solidarity with visiting tourists as well as the locals' wellbeing (Park et al. 2017; Lee & Hoosuk, 2011). For example, Xu et al.'s (2019) findings indicated that the meaningful social interactions with unknown tourists in the local park, as a dimension of the emotional solidarity, were critical determinants of residents' attachment to the communities. Similarly, the survey conducted in Iowa by Sundblad et al. (2011) revealed that the feelings of closeness, friendly and trusting can facilitate residents attached to the place they lived. In this sense, residents' level of community attachment is relevant to their emotional solidarity with the visitors. Moreover, some of other studies also investigated the roles of resident-community relationship and emotional well-being (Su & Swanson, 2019; Arnberger & Eder, 2012). Such as one accomplished by Park and his colleagues (2017) revealed that there existed a correlation between respondents' well-being and attachment to community as an urban site in South Korea. They also indicated that not only does well-being affect community attachment but the level of attachment also affects residents' attitude. The most recent researches also supported relationship between those two constructs, such as a study conducted by Eslami et al. (2019), which reported that locals' attachment to community indirect influence their well-being through perceived social, cultural and economic tourism impacts. Drawing from the literature review, hypotheses of the moderated effect of community attachment on emotional solidarity and well-being are offered as followed:

*Hypothesis 5:* Community attachment moderates the effect from emotional solidarity with tourists ([a]emotional closeness; [b] sympathetic understanding; and [c] welcoming nature) to emotional well-being.

In summary, this study developed an integrative model, where emotional well-being mediates the effect from emotional solidarity to residents' attitude regarding tourism, and community attachment moderates the relation from emotional solidarity to emotional well-being. Fig.1 depicts the proposed model.



**Figure 1.** Research Framework.

### 3. Methodology

#### 3.1. Data Collection Procedures

We conducted the survey in Jinan, the capital of Shandong Province, China. It is the political, cultural and educational center of Shandong. It is famous for its cultural heritage and abundant tourist attractions. Due to its numerous springs, it is also known as the “Spring City”. In 2019, it is estimated that the total tourism consumption will exceed 19.29 billion dollars, an increase of about 12% compared to the last year; it is expected that the tourist arrivals will exceed 100 million, an increase of 8.5% compared to the last year (Jinan Culture and Tourism Bureau).

In the survey, residents (i.e. every fourth people who pass the investigator ) were intercepted in July and August 2017 at the local parks or the gates of supermarkets, and asked to fill in a self-administered questionnaire. Before completing the questionnaires, each participant was asked to indicate their personal information such as age (i.e. they have to be at least 16 years old), and place of residence (i.e. they have to be the residents of Jinan). Only the respondents who meet these criteria were allowed to finish the survey. 386 questionnaires were collected totally. After eliminating errors and missing values, further analysis is performed using 345 responses that meet



the minimum sample size requirements for modeling structural equations.

### 3.2. Survey Instrument and Analysis Method

An on-site survey was employed to fulfill the research objectives, measure instruments were generated from previous studies. Specifically, emotional solidarity was measured by ten items in three dimensions (Emotional Closeness, Sympathetic Understanding, and Welcoming nature) from Woosnam and Norman (2010). Residents' emotional well-being was measured by six items, which was adopted from previous researches on QOL (Kim, Uysal & Sirgy, 2013; Kim, 2002). Residents' attitude regarding tourism was measured by six items as in Moghavvemi (2017). The community attachment was measured by three items (McCool, & Martin, 1994). All these variables were measured by 5-point Likert scale (1= 'Very dissatisfied or Strongly Disagree', 5= 'Very satisfied or Strongly Agree'). At last, participants needed to indicate their demographics, including gender, age, education level, income, nationality and years of residence.

The structural equation modelling was analyzed with Mplus7 software. More specifically, the bootstrap re-samples for mediation were done with 2,000 times and a bias-corrected 95% Confidence interval. If zero is not included in the interval, the indirect effects are statistically significant (Hayes 2013; Montoya, & Hayes, 2016). In addition, in order to identify the moderated effect of community attachment, this study defined the standardized interaction of emotional closeness, sympathetic understanding, welcoming nature with community attachment separately. If the probability of the interaction less or equal to 0.05, and zero is not in the confidence interval, the moderate effects are significant.

## 4. Results

### 4.1. Socio-demographic Profile

Among 345 participants, 47.0%(n=162) were male while 53.0%(n=183) were female. The largest group of participants (67.5%, n=233) has a secondary/high school degree and 14.5% of participants has a middle school or under degree(n=50). About 30.7% (n=106) of the participants have lived in Jinan for 11-20 years, and 89.3% (n=308) of the participants are not engaged in tourism industry. Details about the profile are presented in Table 1.

**Table 1.** Socio-demographic characteristics of the sample.

Demographic		n	Percent
Gender	Male	162	47.0
	Female	183	53.0
Age	16-20	30	8.6
	21-30	88	25.5
	31-40	58	16.8
	41-50	56	16.2
	51-60	61	17.7
	Over 60	61	17.7
Education	Middle School or Under	50	14.5
	Secondary/High School	233	67.5
	College/University degree	32	9.3

	Postgraduate Degree	30	8.7
Average monthly individual income (RMB) <sup>a</sup>	Less than 1500	46	13.3
	1501-5000	164	47.5
	5001-10000	93	27.0
	More than 10000	42	12.1
Whether involved in tourism industry	Yes	37	10.7
	No	308	89.3
Length of residence	≤5 year	70	20.3
	6-10 year	40	11.6
	11-20 year	106	30.7
	21-30 year	67	19.4
	> 30year	62	18.0

<sup>a</sup> RMB 1.00 was equal to US\$0.149 when collecting data.

#### 4.2. Measurement Model

The performance of the measurement model was tested by a confirmatory factor analysis (CFA) using Mplus7, with maximum likelihood estimation. Results of the CFA are as followed:  $\chi^2$  (256 df) = 326.834,  $\chi^2$  /df = 1.277, p = 0.002; TLI = 0.982; CFI = 0.984; SRMR = 0.034; RMSEA = 0.028. All these indices showed an adequate fit to the data (Bagozzi & Yi, 1988; Hair et al., 2014). Thus, both construct validity and reliability of the measurement model were calculated. First, as shown in the Table 2, for each variable, the value of AVE was higher than 0.5, exceeding the threshold. These values, combined with statistically significant item loadings (Anderson et al., 1988), demonstrated the evidence of convergent validity. Second, discriminant validity was assessed by comparing the squared root of the AVE and the corresponding correlation coefficients with others, the value of each variable's AVE should be higher than the correlation coefficients between that variable and the others. In addition, AVE should also be greater than its corresponding ASV and MSV. As it can be seen, these prerequisites were achieved, offering strong support for discriminant validity. Third, all the values of composite reliability (CR) were greater than 0.7, which meet the threshold value and demonstrated reliability of the model.

**Table 2.** Validity Assessment Criteria and Correlation.

Measures	CR	AVE	MSV	ASV	EC	SYMU	WEV	EMW	RA	COMA
EC	0.777	0.636	0.188	0.095	<b>0.797<sup>a</sup></b>					
SYMU	0.876	0.638	0.558	0.205	0.324 <sup>b***</sup>	<b>0.799</b>				
WEV	0.873	0.631	0.308	0.167	0.286 <sup>***</sup>	0.489 <sup>***</sup>	<b>0.794</b>			
EMW	0.860	0.510	0.260	0.136	0.306 <sup>***</sup>	0.351 <sup>***</sup>	0.446 <sup>***</sup>	<b>0.714</b>		
RA	0.920	0.660	0.558	0.264	0.434 <sup>***</sup>	0.747 <sup>***</sup>	0.555 <sup>***</sup>	0.510 <sup>***</sup>	<b>0.812</b>	
COMA	0.804	0.578	0.010	0.006	0.088	0.035	-0.072	0.079	0.098	<b>0.760</b>

Note:

a. Bold figures on the diagonal are the sq root AVE.

b. Off-diagonal figures are the inter-construct correlation.

\*p < 0.05; \*\*p < 0.01; \*\*\*p < 0.001.

Emotional closeness = EC; Sympathetic understanding = SYMU, Welcoming nature = WEV; Emotional well-being = EMW; Residents' attitude = RA; Community attachment = COMA.

**Table 3.** Structural Model Parameter Estimates.

Table 3. Structural Model Parameter Estimates					
Direct effects		$\beta$	SE	T	Results
Hypothesis1a:Emotional closeness→Emotional well-being		0.137*	0.056	2.447	supported
Hypothesis1b:Sympathetic understanding→Emotional well-being		0.185*	0.076	2.419	supported
Hypothesis1c:Welcoming nature→Emotional well-being		0.310***	0.068	4.540	supported
Hypothesis2a: Emotional closeness→Residents' attitude		0.156**	0.057	2.753	supported
Hypothesis2b:Sympathetic understanding→Residents' attitude		0.497***	0.068	7.364	supported
Hypothesis2c: Welcoming nature→Residents' attitude		0.162**	0.061	2.664	supported
Hypothesis3: Emotional well-being→Residents' attitude		0.259***	0.050	5.161	supported
Indirect effects	$\beta$	SE	T	95%C	Results
Hypothesis 4a:Emotional closeness→Emotional well-being→Residents' attitude	0.036*	0.016	2.247	0.009,0.071	supported
Hypothesis 4b:Sympathetic understanding→Emotional well-being→Residents' attitude	0.048*	0.024	1.968	0.010,0.107	supported
Hypothesis 4c: Welcoming nature→Emotional well-being→Residents' attitude	0.08***	0.021	3.750	0.044,0.130	supported
Moderating effects	$\beta$	SE	95%CI	Results	
Hypothesis5a: Emotional closeness×Community attachment→Emotional well-being	0.082	0.049	-0.014,0.176	Not supported	
Hypothesis5b: Sympathetic understanding×Community attachment→Emotional well-being	-0.131*	0.054	-0.226, -0.024	supported	
Hypothesis5c: Welcoming nature ×Community attachment→Emotional well-being	-0.055	0.055	-0.161, 0.052	Not supported	

Note: \*p <0.05; \*\*p <0.01; \*\*\*p <0.001.

### 4.3. Structural Model

Based on the sound psychometric properties of all factors in this model, then the SEM was conducted using Mplus7 software to test the proposed hypothesis. In the Table 3, standardized coefficients and significance of all the hypotheses are listed.

First, the proposed structural model presented a good model fit ( $\chi^2=60.394$ ;  $df=29$ ;  $\chi^2/df=2.083$ ;  $p=0.001$ ;  $TLI=0.975$ ;  $CFI=0.983$ ;  $RMSEA=0.056$ ;  $SRMR=0.020$ ) (Hair et al., 2006).

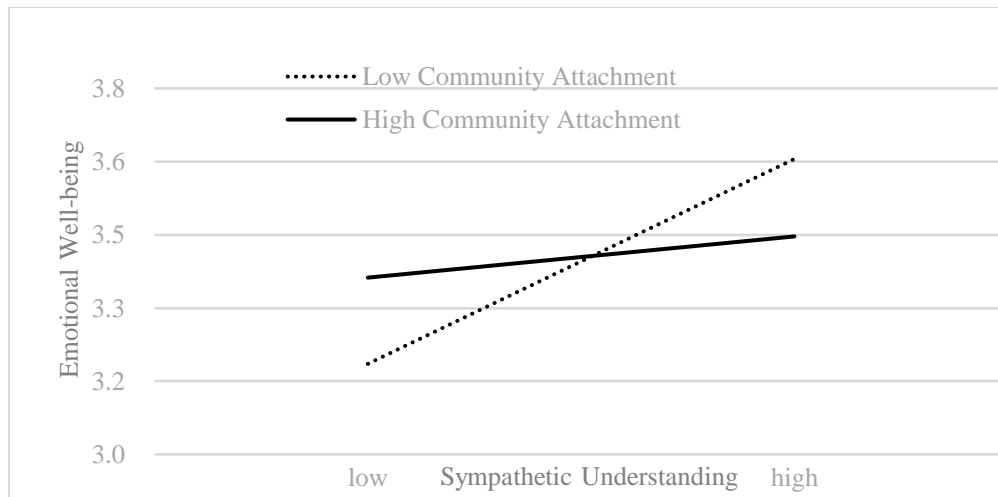
Second, the direct effects were all proved significant. Hypothesis 1a( $\beta = 0.137$ ,  $p < 0.05$  ), hypothesis 1b( $\beta = 0.185$ ,  $p < 0.05$  ), hypothesis 1c( $\beta = 0.310$ ,  $t = 4.540$ ;  $p < 0.001$  ), hypothesis 2a( $\beta = 0.156$ ,  $t = 2.753$ ;  $p < 0.01$  ), hypothesis 2b( $\beta = 0.497$ ,  $p < 0.001$  ), hypothesis 2c( $\beta = 0.162$ ,  $p < 0.01$  ) and hypothesis 3( $\beta = 0.259$ ,  $p < 0.001$ ) were all supported. Therefore, emotional solidarity direct influence emotional well-being, emotional solidarity direct affect residents' attitude regarding tourism, and emotional well-being direct influence residents' attitude regarding tourism.

Third, the indirect effects were significant. The indirect effects of emotional closeness on attitude ( $\beta = 0.036$ , 95%CI = 0.009 - 0.071), sympathetic understanding on residents' attitude ( $\beta = 0.048$ , 95%CI = 0.010 - 0.107), welcoming nature on residents' attitude ( $\beta = 0.08$ , 95%CI = 0.044 - 0.13) through emotional well-being were all proved significant. In addition, there was no zero in 95%CI, providing strong support for hypotheses 4a, 4b, and 4c, respectively. Thence, emotional well-being can both direct influence residents' attitude towards tourism and mediates the effect of residents' emotional solidarity with tourists on residents' attitude.

Finally, only one path moderating effect was significant. The standardized coefficient for the interaction term between sympathetic understanding and community attachment was statistically significant ( $\beta = -0.131$ , SE = 0.054, 95% CI = -0.226 - -0.024), while the other two interaction terms were not statistically significant. These results corroborated hypothesis 5b, but failed to support hypothesis 5a and 5c. Therefore, community attachment only moderates the relationship between sympathetic understanding and emotional well-being while the moderating effects were not significant between the emotional closeness and welcoming nature to emotional well-being. Besides, the negative sign of significant interaction term indicated that the effect of residents' sympathetic understanding with tourists on the residents' emotional well-being decreases as their attachment level to community increases.

**Table 4.** Moderated Analysis.

Variable	Emotional well-being		
	$\beta$	SE	95%CI
Emotional closeness( $X_1$ )	0.142**	0.049	0.046,0.238
Sympathetic understanding( $X_2$ )	0.197***	0.053	0.093,0.302
Welcoming nature( $X_3$ )	0.347***	0.051	0.243,0.452
Community attachment(W)	0.007	58.215	-0144.117,144.132
Inter_1: $X_1$ *W	0.082	0.049	-0.014,0.176
Inter_2: $X_2$ *W	-0.131*	0.054	-0.226, -0.024
Inter_3: $X_3$ *W	-0.055	0.055	-0.161, 0.052
Constant	-0.006	0.047	-0.097, 0.086
$R^2$	0.255	4.292	



**Figure 2.** Moderating Effect of Community Attachment on the Relationship between Sympathetic Understanding and Emotional Well-being.

## 5. Conclusion and Discussion

### 5.1. Conclusion and Discussion

This study tested a theoretical model which integrate constructs of emotional solidarity, emotional well-being, community attachment and residents' attitude using Mplus7. These constructs have been considered important in tourism literature recently but their exact relationships still remain ambiguity. It was the first attempt to integrate those constructs in one model, and include variables pertaining both human-place relationship and host-guest relationship, which gives an idea to establish residents' attitude framework. Consistent with previous studies, the study supported that emotional solidarity and emotional well-being are predictors of residents' attitude regarding tourism development. This study also supported that residents' well-being partially mediating the relationship from emotional solidarity to residents' attitude toward tourism. Furthermore, we examined community as the moderator between the relationship of emotional solidarity with emotional well-being. Not all the three paths from construct emotional solidarity to emotional well-being were moderated by community attachment. That is, moderator community attachment has a negative moderating effect on the relationship between sympathetic understanding and emotional well-being while it has no effect on the relationship between the emotional closeness and emotional well-being, either the relationship between the welcoming nature and emotional well-being. Specifically, when destinations step into later developing stages, the tourist arrivals and their activities may bring a series of negative effects, such as the cultural accommodation. For residents with strong community attachment, they attach more importance to local culture. When it's difficult to protect the local culture and traditions, residents who strongly attached to community would feel that their spiritual activities and lives are affected, and their emotional wellbeing is weaker.

## *5.2. Theoretical and Managerial Implications*

This study fills in gaps in tourism literature. The results of this research showed evidence that the attitude regarding tourism development of the local residents may be influenced by their friendship with tourists and their emotions when facing tourists, which was ignored by existing literature. According to the literature review, there's only a few studies have ever investigated the quality of life as the antecedent of residents' attitude, let alone as the mediator, so this paper mainly contributed to identify the role of residents' emotional well-being, and proved its mediating role between emotional solidarity and attitude.

Expanding on the previous work, this paper investigated the moderating effect of community attachment in the relationship from emotional solidarity to emotional well-being, which can "answer the 'so what' questions" (Woosnam & Aleshinloye, 2013).

Combine with the existing research on residents' attitude and quality of life, this study offers insights and suggestions for DMOs and tourism planners. First, DMOs and planners should organize some activities that residents and tourists can participate together and help residents to build emotional solidarity toward tourists. Second, from the factor sympathetic understanding, planners should strengthen the advertising of tourism attractions in local, which can enhance residents' pride of local culture and tourism, thus help residents get the better understand of tourists. Understanding the original intention of tourists would benefit for residents to take the initiative to protect the local culture and natural scenery. Third, hospitality is a tradition and tourism brand in Shandong Province, which promotes residents' welcoming nature with tourists and enhances the tourists' favorability to Shandong. Therefore, a tourism slogan or brand that encourages hospitality can better help to foster a welcoming circumstance in local community.

## *5.3. Limitations*

Like other researches, the study has some limitations. First of all, the study uses SEM to test the relationships between constructs, which are insensitive to the causality. Further studies could use mixed methods approach by combining qualitative research and quantitative research together. Second, the outcomes of this study show the moderating effect of community attachment and its moderating effect is a little weak. Other variables may be more suitable as a moderator in this model, like perceived tourism impact (Woosnam, & Aleshinloye, 2018; Zhe, Gursoy, & Chen, 2013). Thus, it would be interesting to integrate other variables to deepen the proposed model. Last but not least, this study discussed residents' emotional solidarity toward visitors. As Suess et al. (2020) mentioned, emotional connection among non-hosting residents and hosting residents would influence their support for tourism development, too. Future research might go beyond the emotional solidarity between residents and visitors and consider emotional relation among different stakeholders.

## References

Due to the word limitation, only part of the reference are listed:

- Bagozzi, R. P., & Yi, Y. (1988). On the Evaluation of Structural Equation Models. *Journal of the Academy of Marketing Science*, 16 (1), 74-94.
- Chen, Y., & Li, X. (2018). Does a happy destination bring you happiness? Evidence from Swiss inbound tourism. *Tourism Management*, 65, 256-266.
- Chi, C. G., Cai, R., & Li, Y. (2017). Factors influencing residents' subjective well-being at World Heritage sites. *Tourism Management*, 63, 209-222.
- Eslami, S., Khalifah, Z., Mardani, A., Streimikiene, D., & Han, H. (2019). Community attachment, tourism impacts, quality of life and residents' support for sustainable tourism development. *Journal of Travel & Tourism Marketing*, 36(9), 1061-1079.
- Harrill, R. (2004). Residents' Attitudes toward Tourism Development: A Literature Review with Implications for Tourism Planning. *Journal of Planning Literature*, 18(3) 251-266.
- Joo, D., Tasci, A. D. A., Woosnam, K. M., Maruyama, N. U., Hollas, C. R., & Aleshinloye, K. D. (2018). Residents' attitude towards domestic tourists explained by contact, emotional solidarity and social distance. *Tourism Management*, 64, 245-257.
- Kasarda, J. D., & Janowitz, M. (1974). Community attachment in mass society. *American Sociological Review*, 39(3), 328-339.
- Kay Smith, M., & Diekmann, A. (2017). Tourism and wellbeing. *Annals of Tourism Research*, 66, 1-13.
- Kim, K., Uysal, M., & Sirgy, M. J. (2013). How does tourism in a community impact the quality of life of community residents? *Tourism Management*, 36, 527-540.
- Lee, C. K., Kim, J., & Kim, J. S. (2018). Impact of a gaming company's CSR on residents' perceived benefits, quality of life, and support. *Tourism Management*, 64, 281-290.
- Ouyang, Z., Gursoy, D., & Chen, K. C. (2019). It's all about life: Exploring the role of residents' quality of life perceptions on attitudes toward a recurring hallmark event over time. *Tourism Management*, 75, 99-111.
- Park, K., Lee, J., & Lee, T. J. (2017). Residents' attitudes toward future tourism development in terms of community well-being and attachment. *Asia Pacific Journal of Tourism Research*, 22(2), 160-172.
- Su, L., Huang, S., & Huang, J. (2018). Effects of destination social responsibility and tourism impacts on residents' support for tourism and perceived quality of life. *Journal of Hospitality & Tourism Research*, 42(7), 1039-1057.
- Suess, C., Baloglu, S., & Busser, J. A. (2018). Perceived impacts of medical tourism development on community wellbeing. *Tourism Management*, 69, 232-245.
- Teye, V., Sirakaya, E., & Sönmez, S. F. (2002). Residents' attitudes toward tourism development. *Annals of Tourism Research*, 29(3), 668-688.
- Uysal, M., Sirgy, M. J., Woo, E., & Kim, H. (2016). Quality of life (QOL) and well-being research in tourism. *Tourism Management*, 53, 244-261.
- Vinzenz, F., Priskin, J., Wirth, W., Ponnapeddy, S., & Ohnmacht, T. (2019). Marketing sustainable tourism: the role of value orientation, well-being and credibility. *Journal of Sustainable Tourism*, 27(11), 1663-1685.
- Woo, E., Kim, H., & Uysal, M. (2015). Life satisfaction and support for tourism development. *Annals of Tourism Research*, 50, 84-97.
- Woosnam, K. M. (2011a). Comparing Residents' and Tourists' Emotional Solidarity with One

- Another: An Extension of Durkheim's Model. *Journal of Travel Research*, 50 (6), 615-626.
- Woosnam, K. M., & Norman, W. C. (2010). Measuring residents' emotional solidarity with tourists: Scale development of Durkheim's theoretical constructs. *Journal of Travel Research*, 49, 365-380.
- Zhong, J. Y., & Mitchell, V.W. (2010). A mechanism model of the effect of hedonic product consumption on wellbeing. *Journal of Consumer Psychology*, 20, 152-162.



# Study on Air Travel Consumption Behavior and Influencing Factors Since the Coronavirus Pandemic

*Yuanxun Wei, Chenqi Wang & Huiwen Yang*

## **Abstract**

The coronavirus pandemic has had a major impact on tourism and transport. Therefore, this paper analyzes and discusses the data of residents' aviation consumption behavior and influencing factors since China has been in the normalization stage of coronavirus prevention and control. From the perspective of consumers, this paper puts forward new innovation and development suggestions for the aviation industry and tourism industry in view of the changes caused by novel coronavirus pneumonia.

**Keywords:** Coronavirus, Air travel, COVID-19, Chinese consumers, Influencing factors, Aviation industry

## **1. Introduction**

There is an enormous impact of coronavirus (COVID-19) on the tourism industry witnessed in 2020. Statistics from the United Nations World Tourism Organization (UNWTO) (2020) show the severity of this incident. Estimated by UNWTO, the number of international tourists could fall 60%- 80% by 2020, causing 75 million jobs at risk (WTTC, 2020). Similarly, as one of the parts of the tourism industry, travel restrictions and border shutdowns cause the evaporation of passenger demand (Iacus, Natale, & Vespe, 2020). The financial outlook of IATA predicted a loss of \$84.3 billion of airlines in 2020, showing the worst outcome after September 11, 2001 and SARS in 2003 (IATA, 2020a). As indicated by Gudmundsson (2020), the influence of this coronavirus pneumonia will be extended to mid-2022.

During this time, it is crucial for the aviation industry to consider new development direction based on the change of policy and passengers. Hence, to explore the breakthrough and innovation of the aviation industry, this study aims to research the factors that influence tourist demand for air travel. These factors include health audit, flight distance, flight destinations, etc. facing the coronavirus based on an online survey in China.

The paper is organized as follows: A discussion of coronavirus and tourism, post-disaster tourist behavior and coronavirus and aviation industry via the literature review, which is in Section 2, followed by the summary of the methodology that has been used. Section 4 illustrates the results of the survey, while section 5 discusses the findings by comparing the previous researches. And some suggestions are proposed in section 6 with the conclusion presented.

## **2. Literature Review**

### *2.1. Coronavirus and Tourism*

In the study of coronavirus, tourism researchers specifically discussed and predicted the impact of the epidemic and crisis policies on air travel and tourism (Sebastian & Florian, 2020). Destination image (Li, et al., 2020), tourist behavior (Cashdan & Steele, 2013), locals' attitudes toward tourism (Chien & Ritchie, 2018) and the industry development has all been discussed.

## *2.2. Post-Disaster Tourist Behavior*

Sebastian & Florian (2020) indicated three trends of post-disaster tourist behavior after the coronavirus. First, research showed that disasters make people more collectivist and more inclined to travel domestically over overseas (Cashdan & Steele, 2013). Second, tourists tried to avoid crowdedness after the disaster (Wang & Ackerman, 2019). Third, more tourism xenophobia would be shown in their journey, resulting in less foreign travel (Kock, Josiassen, Assaf, Karpen, & Farrelly, 2019a).

## *2.3. Coronavirus and Aviation Industry*

Several academic papers have assessed the demand, attitude, and behavior of tourists. They estimated the trend during and after coronavirus as well.

A lot of researches have discussed the trend of the aviation industry. Iacus (2020) estimated the socio-economic impact of the industry after the coronavirus based on historical data of another epidemic from IATA. It showed the losses of GDP will reach 1.41–1.67% while the losses of jobs may achieve a value of 25–30 million because of an air travel ban on aviation. When it comes to the recovery trend, IATA (2020a) forecast that the aviation industry may not recover to the level of 2019 before 2023. Gudmundsson (2020) also admitted that it would be full recovery from mid-2022 to 2026.

As for the demand and behavior of passengers facing the coronavirus, the research of BVA BDRC (2020), IATA (2020b), and Gallego & Font (2020) indicated that most people (83%) concerned about the harm of air travel caused by the virus. However, only one-third of them will avoid air travel, the rest of whom will take self-check (temperature check), proper protection (wear masks, gloves), and clean steps (washing hands frequently) to minimize harms. Graham, Kremarik and Kruse (2020) focused on the attitudes of aging people in the US toward air travel, which got the same result as IATA. Furthermore, the aging group of passengers seems to take more domestic travel instead of international travel.

However, within the growing number of air travel researches, it is rare to find any specific mentions of factors influencing tourists' behavior of air travel. Researches before the outbreak of coronavirus indicated various factors that influence tourists' demand of air travel, including socio-demographic factors, social norms, travel motivations (Cohen & Higham, 2011), personal values (Schubert, Sohre & Strbel, 2020) and concerns of aviation (Hess, Alder & Polak, 2007), etc. With the outbreak of the coronavirus, policy including travel restrictions and border shutdowns, changes of health and safety concerns and efforts to ensure aviation safety mentioned by ICAO all induce the change of factors that influence tourists' demand for air travel, which is still a gap in related fields. Also, most of the researchers have focused on Europe and America with rare researches concentrated on Asia-Pacific. Based on these research gaps, it is necessary to research on the factors that influence tourists' demand for air travel in the Asia-Pacific region.

### 3. Methodology

The research based on an online survey of residents in China aged between 18 and 65. This research aims at gathering the consumer behaviors of tourists of air travel facing the coronavirus and analyze the influencing factors. The coronavirus is the focus of this research, which changes the consumer behavior of air travel. Furthermore, the research will only respond to these specific questions in the survey. Other findings will be reported elsewhere.

This survey was conducted by the Wenjuanxing in WeChat Mini Program, which was divided into several age groups (i.e. 18-25, 26-35, 36-45, 46-55, and 56-65) to facilitate analysis. The division of age levels is based on “‘Green’ on the ground but not in the air: Pro-environmental attitudes are related to household behaviors but not discretionary air travel”(Alcock et al., 2017) and the survey has made some modifications according to the actual situation. The main target population of this survey is adult workers and university students.

From 10 August 2020 to 24 August 2020, a total of 200 valid questionnaires was received. In this time stage, China has been in the normalization stage of coronavirus prevention and control, and shows the complexity of the lockdown measures. Compared with the relaxation of most lockdown measures in the domestic areas, borders of China remain closed and only a few people can enter it. In the meantime, key regions in epidemic prevention and control and tourists from abroad still need to be quarantined for 14 days. Also, the purpose of travel becomes diversified (MICE, attend school, leisure, VFR...). Therefore, it is considered appropriate to investigate the response of the residents toward air travel facing coronavirus. Table 1 shows the characteristics of the respondents.

The survey contains 12 closed questions, 10 of which are related to the coronavirus. The content of this questionnaire is divided into 3 parts, including the basic information of respondents, the consumer behaviors of respondents, and the influencing factors. In terms of the method, the second part and third part both take Likert's five-point measures and use semantic differential scales format to represent the degree of the consent of the respondents: 1 = very disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = very agree. The respondents needed to choose the scores according to their situations and feelings.

### 4. Results

Table 1  
Characteristics of survey respondents (n=200).

Age	% Share	Gender	% Share	Flights(*) in 2019(+)	% Share	The main purpose of flight in 2019	% Share
18-25	32.50	Male	55.00	1	32.50	Business	12.50
26-35	19.50	Female	45.00	2	28.50	Tourism	32.00
36-45	16.00			3	13.50	Study	31.50
46-55	21.50			4	7.50	Visit relatives	11.50
56-65	10.50			5+	1.50	Others	12.50

(\*) A one-way flight or a round-trip flight is recorded as a flight. (+) The complete question is 'How many flights did you have in 2019'. The total number of statistical results will not be added to 100%, because there are 16.50% respondents had no flight records in 2019 and they were recorded as 0.

According to table 1 statistics, it can be seen that about 44% of all respondents are females and males account for about 56%. Besides, most of respondents are aged from 18-25, which accounts for 32.50%. 19.50% of respondents aged 26-35, 16% of respondents aged 36-45, 21.50% of respondents aged 46-55 and 10.50% of respondents aged 56-65. Among them, 55% of the respondents are male and 45% of respondents are female. About 83.50% of the respondents had aviation experiences in 2019, more than half of whom have 2 or more experiences. The main purposes of air travelling among respondents are business, tourism, study and visiting relatives in 2019, accounting for 19.50%, 31%, 25.50% and 11.50% respectively. Besides, 12.50% of the respondents have other purposes for air travelling.

Table 2  
Future consumer behavior

	<b>1 Strongly agree</b>	<b>2 Somewhat agree</b>	<b>3 Neither agree nor disagree</b>	<b>4 Somewhat disagree</b>	<b>5 Strongly disagree</b>
I will reduce the number of my air flights because of the outbreak of COVID-19	29.00%	12.00%	24.50%	16.50%	18.00%
I prefer other alternative modes of transportation rather than airplanes because of the outbreak of COVID-19	11.50%	8.00%	20.00%	18.00%	42.50%
I prefer domestic locations as my flight(travel) destination because of the outbreak of COVID-19	53.50%	18.00%	7.50%	8.00%	13.00%
I prefer foreign locations as my flight(travel) destination because of the outbreak of COVID-19	7.00%	8.50%	11.00%	11.50%	62.00%

I will prefer short-distance flight to long-distance flight(travel)	39.50%	16.50%	22.50%	13.50%	8.00%
---	--------	--------	--------	--------	-------

The consumer behaviors after the outbreak of coronavirus are also explored (Table 2). 41% of respondents indicate that coronavirus outbreaks have a great impact on their air travel plans and they will reduce the number of flights in the future.

As for the choices of transportation, only 19.50% of respondents agree with using other kinds of transportation instead of the airplane. On the issue of overseas tourism and domestic tourism, 71.50% of respondents show that they prefer a domestic place after coronavirus, and the other respondents still hoped to travel abroad. On the issue of destination selection, 73% of respondents disagree with choosing foreign countries as their tourist destinations. Besides, 21% interviewees still plan to travel abroad.

The survey also investigates the response of flying distance, 56% of respondents indicate that they prefer the short-distance to the long-distance flights, and 21.50% of respondents show the opposite view.

The data presented in table 1 and table 2 were analyzed by SPSS software.

Table 3

Influence Factor

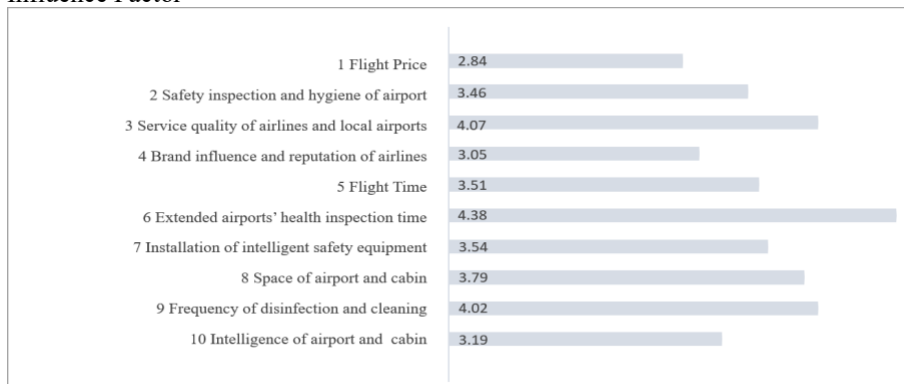


Fig. 3. Factors influencing future aviation consumption behaviors: mean score of rankings Note: Respondents were asked to rank the factors 1–5 with 5 being the most important, so the higher the mean score of responses the more important the factor.

In order to alleviate the huge impact of the global epidemic on the aviation industry and promote the sustainable development of economy and tourism, this study analyzes the influencing factors of coronavirus on consumers' aviation choices (Fig.3).

According to figure 3, the average score of extending health inspection in airports time is 4.38, which indicates that health inspection is the most important factor for respondents' air travel. The average score of service quality is 4.07 followed by the average score 4.02 of frequency of disinfection and cleaning. Also, the average score of airport and cabin space is 3.79 and the average score of flight time is 3.51, which is close to the average value 3.54 of intelligent safety devices.

The average score of brand influence and reputation of airlines is 3.05. Finally, the average score 2.84 of flight price is the lowest, which means it has the least impact on respondents' choice of air travel.

## **5. Data Analysis**

The survey results indicate that there are over 51% of respondents have more than one flight experience in 2019 (Table 1). These data can prove that most respondents use air traffic as a mean of transportation, even the airplane has become a common means of transportation for some participants.

Moreover, the coronavirus epidemics also made an influence on the destination of the flight. On the issue of overseas tourism and domestic tourism, more than half of the respondents expressed that they would prefer to choose domestic tourism destinations in the future. There is also a finding that the outbreak of coronavirus made the respondents have more ideas about the flying distance. 56% of them indicated that they preferred short-distance air travel to long-distance air travel.

Therefore, according to the survey results (Table 2), novel coronavirus makes a major impact on the number of flights, flight distance and destination selection of consumers.

Another important finding of the influence of coronavirus is that more than 60% of respondents believe that they may not choose other modes of transportation instead of airplanes because of the coronavirus. It seems that consumers' choices and transportation preference have not changed significantly due to the new epidemic. Most of the respondents choose means from transportation is mainly based on their actual needs.

As air travel resumes, there are factors that can be incorporated into airport and flight regulations enhance the security aspects of the trip. Respondents rated airport safety inspection procedures, service quality and frequency of disinfection and cleaning as the most important factors affecting their safe travel (Fig. 3). Although flight price and brand influence of airlines are important reference indicators for many people in choosing a flight, they are considered to be the least important factors. This may be related to the change of people's psychology and concept after the outbreak of the coronavirus, that is, the rapid spread of the coronavirus has caused social panic, many workers have to stop working and isolate at home. Therefore, they began to pay more attention to personal health and medical safety. The results presented in the figure 3 show that the impact on the novel coronavirus on passengers' psychology is reflected on the changes of aviation choice. More than half of the respondents indicated they care about the space of the airport and cabin. The spacious airport may make consumers feel safer and more relaxed, as it offers more space for social distance. Besides, a third of respondents stated that flight time is also an important reference factor of choosing an airline. They are more likely to choose high-speed flights of the same distance.

The study also found that some respondents are interested in smart devices. Among them, the average value of safety intelligent equipment is higher than the average value of airport intelligent degree, reaching 3.54. Finally, the analysis of the survey attempt to find whether there were any significant differences observed according to the survey results in the table 1. Mann-Whitney U

tests (for gender, flights) and Kruskal Wallis H tests (for age, purpose) were taken with the variables discussed in the tables/figures above, but there were no statistically significant relationships found.

Therefore, according to the results of the data, local airports and airlines may be able to carry out reforms and innovations in safety and health procedures to develop after the outbreak of coronavirus. At the same time, the psychological changes of passengers caused by the coronavirus pandemic are also an important reference factor of the development of the aviation industry.

## **6. Discussion and Conclusion**

### *6.1. Discussion and implications*

This research aims to explore the breakthrough and innovation of the aviation industry after the outbreak of the coronavirus by analyzing the changes in aviation consumption behaviors and the influencing factors, to promote the recovery and further development of the aviation industry and tourism. It shows several important implications for the air transport industry. The air transport industry is now struggling to recover from the devastating effects of the coronavirus pandemic. Surprisingly, most potential passengers believe that air travel is an irreplaceable mode of transportation; they will not give up flying because of the epidemic. Tourism may need more encouragement than other markets to return to its former level. Airlines and travel companies can conduct in-depth cooperation in route development, tourism information, information services, transportation services, commercial services, and joint promotion. They can jointly plan aviation travel service products, innovate aviation travel marketing models and improve aviation travel service quality (Yang&Liu, 2020). At the same time, the cooperation could be further strengthened on quality routes, ecological, cultural, folk, and other cultural tourism products (Hou, 2020).

Besides, analysis shows that airlines' health audits of passengers is the most critical issue. Therefore, further research is needed to investigate which measures, if any, belong to the health audit, and to extend the time and process of the health audit accordingly, to give passengers enough sense of security and attention. Airlines could pay attention to the health and safety of the crew and passengers, and extend the inspection of passengers' health status during the security inspection. In the post-epidemic era, health checks, the proportion of space reserved for passengers, passenger flow control parameters, and check-in procedures will all change. Airports could use thermography cameras to scan every passenger as they pass by, and those in high temperatures would be whisked away for further testing (Thepapercn,2020). Besides, a relatively high proportion of passengers believed that the quality of service at airports and flights harmed their experience. This may be another area of particular concern to ensure that the special needs of passengers are met.

Finally, in terms of the different stages of the passenger journey, it is interesting to note that people were more willing to take a short trip than before the novel coronavirus outbreak, perhaps because they thought the short trip had less chance of being released from the virus. Tourists prefer direct or stop-over flights to reduce flight time. The airline route network should be adjusted to improve the quality of important domestic routes of passenger and cargo hubs (Hu, 2020). This may seem surprising given that public transport is generally considered a dangerous business. The

coronavirus pandemic has also affected people traveling abroad. The vast majority of passengers prefer to travel through China. Perhaps the main reason is that the epidemic of China has been effectively contained, which has reassured tourists.

### 6.2. Conclusion

This study mainly explores the consumer behaviors and influencing factors of the aviation market under the influence of the novel coronavirus and discusses the measures and suggestions to promote the recovery and further development of aviation and tourism. The study must find that although the air transport industry and the tourism industry are being hard hit by the coronavirus situation, the aviation consumption market still has great potential. Most consumers will not give up air transportation completely because of the novel coronavirus pandemic. Besides, the speed advantage of air travels will be increasingly prominent in tourism market competition after the outbreak of coronavirus. At the same time, the psychological change of passengers caused by the coronavirus is also an important reference factor of the future development of aviation and tourism. Therefore, aviation practitioners need to draw on more experience, strengthen cooperation in various fields, and enhance industrial structure reform and innovation to attract more potential passengers and create mass markets.

### 6.3. Limitations of this study and suggestions for future study

This research inevitably has limitations. It uses a relatively small sample range of a country, which does not include all age groups. Moreover, the questionnaire covers part of the air transport industry sectors, not all departments. In conclusion, various areas of the world are suffering from the great impact of coronavirus, and people's attitude towards air travel is also changing rapidly. The research plans to carry out more investigation work and conduct detailed and in-depth interviews to further study some of the main issues discussed in this paper.

## References

- Alcock, I., White, M., Taylor, T., Coldwell, D., Gribble, M., Evans, K., Corner, A., Vardoulakis, S., & Fleming, L. (2017). “Green” on the ground but not in the air: Pro-environmental attitudes are related to household behaviors but not discretionary air travel. *Global Environmental Change*, 42, 136–147.
- BVA BDRC, 2020. *Tracking consumer sentiment on the impact of COVID-19, travel mobility, leisure and hospitality*. Retrieved from <https://www.bva-bdrc.com/products/tracking-consumer-sentiment-on-the-impact-of-covid-19/>.
- Cashdan, E., & Steele, M. (2013). Pathogen prevalence, group bias, and collectivism in the standard cross-cultural sample. *Human Nature*, 24(1), 59–75.
- Cohen, S., Higham, J., & Reis, A. (2013). Sociological barriers to developing sustainable discretionary air travel behavior. *Journal of Sustainable Tourism*, 21(7), 982–998.



- Devi, S. (2020). Travel restrictions hampering COVID-19 response. *The Lancet (British Edition)*, 395(10233), 1331–1332.
- Gallego, I., & Font, X. (2020). Changes in air passenger demand as a result of the COVID-19 crisis: using Big Data to inform tourism policy. *J. Sustain Tourism*, 1-20.
- Hess, S., Adler, T., & Polak, J. (2007). Modelling airport and airline choice behavior with the use of stated preference survey data. *Transportation Research Part, E* (43), 221-233.
- Hou, Y. (2020). Research on the Integrated Development of aviation Industry and Cultural Industry. *Zhengzhou municipal party committee of the communist party of China party school journal*, 15 (01), 58-61.
- Iacus, S., Natale, F., & Vespe, M. (2020). Flight restrictions from china during the coronavirus outbreak. *Technical report*, 3(6), 6-8.
- IATA. (2020). *Industry Losses to Top \$84 Billion in 2020*. Retrieved 12<sup>th</sup> of August 2020, from <https://www.iata.org/en/pressroom/pr/2020-06-09-01/>
- IATA. (2020). *Outlook for air travel in the next 5 years*. Retrieved 11<sup>th</sup> of August 2020, from <https://www.iata.org/en/iata-repository/publications/economic-reports/covid-19-outlook-for-air-travel-in-the-next-5-years/>.
- Kock, F., Josiassen, A., & Assaf, A. G. (2019b). The xenophobic tourist. *Annals of Tourism Research*, 74, 155–166.
- Li, J., Nguyen, H., & Coca-Stefaniak, J. A. (2020). Coronavirus impacts on post-pandemic planned travel behaviors. *Annals of Tourism Research*, 17, 45-49.
- Qiu, W., Chu, C., Mao, A., & Wu, J. (2018). The Impacts on Health, Society, and Economy of SARS and H7N9 Outbreaks in China: A Case Comparison Study. *Journal of Environmental and Public Health*, 2018, 1–7.
- Ryan, C. (1998). *Emerging mass tourism in the south—reflections on the social opportunities and costs of national and regional tourism in developing countries [Review of Emerging mass tourism in the south—reflections on the social opportunities and costs of national and regional tourism in developing countries]*. 19(5), 489–490.
- Schubert, I., Sohre, A., & Strbel, M. (2020). The role of lifestyle, quality of life preferences and geographical context in personal air travel. *Journal of Sustainable Tourism* (6), 1-32.
- Thepapercn. (2020). *The global airline industry's dilemma under the epidemic and how to break*

- it. Sina Finance. Retrieved 8th of June 2020, from  
<https://www.finance.sina.com.cn/roll/2020-06-08/doc-iircuyvi7340033.shtml>
- UNWTO. (2020). *Impact of Covid-19 on Global Tourism Made Clear as Unwto Counts the Cost of Standstill*. Retrieved 11<sup>th</sup> of August 2020, from  
<https://www.unwto.org/news/impact-of-covid-19-on-global-tourism-made-clear-as-unwto-counts-the-cost-of-standstill>
- Wang, I. M., & Ackerman, J. M. (2019). The infectiousness of crowds: Crowding experiences are amplified by pathogen threats. *Personality and Social Psychology Bulletin*, 45(1), 120–132.
- WTTC. (2020). *Latest research from WTTC. World Travel & Tourism Council (WTTC)*. Retrieved 8th of April 2020, from <https://www.wttc.org/about/media-centre/press-releases/press-releases/2020/latest-research-from-wttc-shows-an-increase-in-jobs-at-risk-in-travel-and-tourism/>
- Yang, H., & Liu, K. (2020). Research on the Cooperative Development of Aviation and Tourism Industry in Sanya under the Free Trade Port. *Management Observation* (18), 53-57.

# **Analysis of crisis management practices in handling COVID-19 disaster in China's chain hotels**

*Jue Li*

## **Abstract**

This study aims to fill the gap – testing the performance of crisis management (CM) practices in lodging industry dealing a health-related disaster in a developing country. Even though existing literature explores the CM planning and preparedness in developed countries, few studies focus on testing the relationship between hotel performance and hotels' CM practices in a developing country. Regarding the progress of this study, I am working on the pilot study section but the data has not been collected yet.

**Keywords:** Chain Hotels, Crisis Management, Crisis Management practices, Hotel Performance, COVID-19 Disaster

## **Introduction**

In December 2019, an unknown pneumonia was found in Wuhan, China. The virus was later named Coronavirus disease (COVID-19) by World Health Organization (WHO) on February 11, 2020 (World Health Organization [WHO], 2020). COVID-19 can be transmitted between humans and severe human infection has been spread from the city of Wuhan in Hubei province in China (WHO, 2020). As of March 22, 2020, there were 81,498 confirmed cases of COVID-19 infection in mainland China, including 3,267 deaths (National Health Commission of the People's Republic of China, 2020). Globally, there were 292,142 confirmed cases of COVID-19 infection and 12,784 death, in 186 countries, areas or territories on the same day (WHO, 2020).

As this outbreak escalates, an increasing number of countries have implemented measures limiting

the mobility of people through their borders (Duarte, Furtado, Sousa and Carvalho, 2020). In early February 2020, 59 flight companies (Chinazzi, 2020) in such countries as Russia, Italy and Canada banned the flight to and from mainland China, which has tremendously lowered the number of international visitors coming to China. This became a main reason the Chinese hotel market witnessed a significant decline of occupancy in 23 to 26 January (Yang, Zhang, and Chen, 2020). According to the hotel industry stock reports in China (Fang, 2020), the lowest stock valuations of hotel operators across China were even below the level in 2003 (SARS period). Some Hotel Groups like InterContinental Hotels Group (IHG) and Hyatt announced that the vast majority of hotels across China would allow unsubscribing and changing rooms during the Chinese New Year (BBC, 2020). Meanwhile, according to the website of Wuzhen Tourism Co., Ltd (<http://www.wtown.com>), the incorporation had to close some of their hotels during the outbreak time. According to preliminary data analysis by Smith Travel Research Company (STR) stated that hotel occupancy in mainland China obviously dropped by 75% between January 16 and 26, 2020 because of COVID-19. On January 14<sup>th</sup>, the Chinese hotel occupancy rate reached 70% and had been declining since then. On January 26<sup>th</sup>, the rate fell to 17%. This means that eight out of ten rooms on average were unoccupied (Newport, 2020; Neoh, 2020).

Health-related crises such as epidemics are prone to negative media coverage and graphic imagery, making them particularly challenging for the tourism sector such as the lodging industry to management (Liu, Pennington-Gray & Krieger, 2016). While there have been certain studies on the effects of crises or disasters (Breitsohl and Garrod, 2016) only four out of sixty-four studies conducted from 2000 to 2010 specifically related to the health crises (Mair, Ritchie, and Walters, 2016). Also, Novelli, Burgess, Jones and Ritchie in 2018 point out the majority of crisis studies

focused on different types of crises in developed countries, but there is lack of enough studies regarding crisis or disaster issues in developing countries.

The COVID-19, as a new virus, is a typical health-related crisis in the world. Thus, this study will fill the gap of how the lodging industry deals with a health-related crisis which has occurred in a developing country. Specifically, the Chinese lodging industry is determined to be the research target to test how hoteliers in China use crisis management practices to resist and recover from the COVID-19.

### **Literature review**

There are a number of definitions of disaster and crisis which have been developed by many scholars (Racherla & Clark Hu, 2009; Ritchies, 2008; Ritchies, 2004; Seeger, Sellnow & Ulmer, 2003; Faulkner 2001). Faulkner (2001) points out that the distinction between disaster and crisis depends on the root cause of an event (Ritchies, 2008). This means a crisis happening is relevant to the enterprises' internal issues while the disaster is made outside the organization such as the 2011 Tsunami in Japan ((Nguyen, Imamura, & Iuchi, 2018) and Severe Acute Respiratory Syndrome (SARS) (Hung, Mark, Yeung, Chan, and Graham, 2018). According to the definition outlined by Faulkner (2001), Coronavirus disease (COVID-19) outbreak is regarded as a disaster.

When handling the negative influences of crises or disasters, crisis management (CM) is able to prevent or reduce the impact of a crisis and then help businesses recover from a crisis or a disaster (Novelli, Burgess, Jones, & Ritchie, 2018; Armstrong, 2008; Glaesser, 2006); to be more specific, CM is responsible for handling the immediate challenge so as to ensure the security of travelers and community and to maintain the momentum in tourism (Henderson, 2007; Prideaux, Laws &

Faulkner, 2003). CM is defined as the process in which crises are identified and predicted, and then actions are taken to prevent crises from happening or an incident from evolving into a crisis, thereby minimizing the effects of disruption from an impending crisis (Perble, 1997). This means that CM is vital for the hotel industry because hoteliers need to take adequate measures, conduct activities and carry out procedures to minimize the damage of crises on its operation in both the short term and long term.

Based on the existing studies, the literature on crisis management practices in the hospitality industry appears to include five main dimensions: marketing, Human Resources, maintenance, government support, and operation (Radwan, H. R. I., 2017; Shehawy & Ragab, 2017; Pappas, 2015; Israeli, Mohsin & Kumar, 2011; Čížmar & Vlahov, 2010; Israeli & Reichel, 2003). These practices are the foundation to design a questionnaire in order to investigate how's the performance of CM practices in Chinese after the COVID-19 outbreak. Thus, the first research question explored in this paper:

***What were the current performances of CM practices that were adopted by chain hotels in China immediately after the breakout of COVID-19?***

Performance is an indicator measuring achievement of hotel business (Tavitiyaman, Zhang, Law & Lin, 2016). The hotel performance indexes which are indicated by categories - financial performance and operational performance (Venkatraman & Ramanujam, 1986).

Besides, hotel performance is strongly connected with strategy, production, marketing and organization (Sainaghi, 2010). For the purpose of this study, the discussion is limited to hotel

performance and strategy. After implementing a management strategy, managers must gauge its organizational effectiveness by measuring firm performance data (Crook, Ketchen & Snow, 2003). In this study, the CM practices' usage performance will be evaluated by hotel performance in financial and operational performance. Hence, the second research question explored in this paper is:

***How is the relationship between CM practices and hotel performance dealing with a health-related disaster in China?***

### **Methodology**

Israeli develops a questionnaire that evaluates the importance and usage of the CM practices in different countries such as Israeli and India, and in different industries including hotel, restaurant and travel agency. In those Israeli's studies, the managers, who face regular cycles of war and terror related crises (Gruman, Chhinzer & Smith, 2011). Based on Israeli (2003), practices should be tested in different countries; this study is planning to use the framework of Israeli's CM practices as guideline to investigate how Chinese hotels use CM practices in preparedness to combat with COVID-19.

The research method applied in this study is an online survey. This survey is conducted by giving a questionnaire that is developed based on previous research. As mentioned above, the study will focus on the chain hotels in Beijing, China. This study will be a plan to use Homogeneous sampling to collect data because the e-questionnaires are expected to be sent to experienced hoteliers who hold management positions, including owners, middle-level managers, department heads and other senior managers. There is possible for revision and a few questions might be deleted after the pilot study and then will send to target participants.

## Contribution

This research will contribute to academia, hoteliers, government departments, and tourism-related organizations. On the one hand, this study will provide an insight for academia to understand how the Chinese lodging industry effectively deals with the COVID-19 and the adopted measures are good examples for prospective crisis management. On the other hand, the theoretical and practical tips for the hoteliers and other tourism-related industries in order to improve the crisis management experiences in the future. Meanwhile, these tips will be beneficial for the government departments and Non-profit Tourism Board to make decisions on how to help the lodging industry get through hard times effectively, and on which new crisis management policies should be issued during the crisis time and post-crisis time.

## References

- Armstrong, E. K. (2008). Tourism destination recovery after the 2003 Canberra fires. University of Canberra.
- Breitsohl, J., & Garrod, B. (2016). Assessing tourists' cognitive, emotional and behavioural reactions to an unethical destination incident. *Tourism Management*, 54, 209-220
- Chinazzi, M., Davis, J. T., Ajelli, M., Gioannini, C., Litvinova, M., Merler, S., ... & Viboud, C. (2020). The effect of travel restrictions on the spread of the 2019 novel coronavirus (COVID-19) outbreak. *Science*.
- Čižmar, S., & Vlahov, A. (2010). Crisis Management in Hospitality Industry: A Case of Croatia. *In From Crisis to Prosperity—Challenges for Government and Businesses, 5th International Conference-An Enterprise Odyssey, Faculty of Economics and Business, Zagreb, University of Zagreb* (pp. 1576-1589).



- Coombs, W. T. (1999). Information and compassion in crisis responses: A test of their effects. *Journal of public relations research*, 11(2), 125-142.
- Crook, T. R., Ketchen Jr, D. J., & Snow, C. C. (2003). Competitive edge: A strategic management model. *The Cornell Hotel and Restaurant Administration Quarterly*, 44(3), 44-53.
- Duarte, R., Furtado, I., Sousa, L., & Carvalho, C. F. A. (2020). The 2019 Novel Coronavirus (2019-nCoV): Novel Virus, Old Challenges. *Acta Médica Portuguesa*, 33(13).
- Fang, H. (2020, January, 22). Impact of the new coronavirus outbreak on China's economy. Retrieved from <http://www.rfi.fr/cn/%E4%B8%AD%E5%9B%BD/20200122-%E6%96%B0%E5%9E%8B%E5%86%A0%E7%8A%B6%E7%97%85%E6%AF%92%E7%96%AB%E6%83%85%E5%AF%B9%E4%B8%AD%E5%9B%BD%E7%BB%8F%E6%B5%8E%E7%9A%84%E5%BD%B1%E5%93%8D>
- Faulkner, B. (2001). Towards a framework for tourism disaster management. *Tourism management*, 22(2), 135-147.
- Glaesser, D. (2006). Crisis management in the tourism industry. Routledge.
- Gruman, J. A., Chhinzer, N., & Smith, G. W. (2011). An exploratory study of the level of disaster preparedness in the Canadian hospitality industry. *International journal of hospitality & tourism administration*, 12(1), 43-59.
- Henderson, J. C., & Ng, A. (2004). Responding to crisis: severe acute respiratory syndrome (SARS) and hotels in Singapore. *International Journal of Tourism Research*, 6(6), 411-419.
- Hung, K. K. C., Mark, C. K. M., Yeung, M. P. S., Chan, E. Y. Y., & Graham, C. A. (2018). The role of the hotel industry in the response to emerging epidemics: A case study of SARS in 2003 and H1N1 swine flu in 2009 in Hong Kong. *Globalization and Health*, 14(1), 1-7.

<https://doi.org/10.1186/s12992-018-0438-6>

- Israeli, A. A., & Reichel, A. (2003). Hospitality crisis management practices: the Israeli case. *International Journal of Hospitality Management*, 22(4), 353-372.
- Israeli, A. A., Mohsin, A., & Kumar, B. (2011). Hospitality crisis management practices: The case of Indian luxury hotels. *International Journal of Hospitality Management*, 30(2), 367-374.
- Liu, B., Pennington-Gray, L., & Krieger, J. (2016). Tourism crisis management: Can the Extended Parallel Process Model be used to understand crisis responses in the cruise industry?. *Tourism Management*, 55, 310-321.
- Mair, J., Ritchie, B. W., & Walters, G. (2016). Towards a research agenda for post-disaster and post-crisis recovery strategies for tourist destinations: A narrative review. *Current Issues in Tourism*, 19(1), 1-26.
- National Health Commission of the People's Republic of China, 2020. Definition of suspected cases of unexplained pneumonia. Retrieved from <http://www.nhc.gov.cn/>
- Neoh, N. (2020, February, 5). Hotels in China suffer 75% occupancy plunge over Lunar New Year. Retrieved from <https://www.travelweekly-asia.com/Travel-News/Hotel-News/Hotels-in-China-suffer-75-occupancy-plunge-over-Lunar-New-Year>
- Nguyen, D. N., Imamura, F., & Iuchi, K. (2018). Barriers towards hotel disaster preparedness: Case studies of post 2011 Tsunami, Japan. *International journal of disaster risk reduction*, 28, 585-594.
- Novelli, M., Burgess, L. G., Jones, A., & Ritchie, B. W. (2018). 'No Ebola... still doomed'—The Ebola-induced tourism crisis. *Annals of Tourism Research*, 70, 76-87.
- Newport, A. (2020, February, 5). STR: The initial impact of coronavirus on hotel occupancy in

China during CNY. Retrieved from <https://www.traveldailymedia.com/str-the-initial-impact-of-coronavirus-on-hotel-occupancy-in-china-during-cny/>

- Racherla, P., & Hu, C. (2009). A framework for knowledge-based crisis management in the hospitality and tourism industry. *Cornell Hospitality Quarterly*, 50(4), 561-577.
- Radwan, H. R. I. (2017). Managing Hotels during Economic Challenges: A Case Study on Hotels in Sharm El-Sheikh and Hurghada, Egypt. *Journal of Tourism and Hospitality Management*, 5(2), 84-100.
- Ritchie, B. W. (2004). Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry. *Tourism management*, 25(6), 669-683.
- Pappas, N. (2015). Marketing hospitality industry in an era of crisis. *Tourism Planning & Development*, 12(3), 333-349.
- Perble J (1997) Integrating the crisis management perspective into the strategic management process. *Journal of Management Studies* 34, 769-791.
- Prideaux, B., Laws, E., & Faulkner, B. (2003). Events in Indonesia: exploring the limits to formal tourism trends forecasting methods in complex crisis situations. *Tourism management*, 24(4), 475-487.
- Sainaghi, R. (2010). A meta-analysis of hotel performance. Continental or worldwide style?. *Tourism Review*.
- Seeger, M. W., Sellnow, T. L., & Ulmer, R. R. (2003). *Communication and organizational crisis*. Greenwood Publishing Group.
- Shehawy, Y.M. & Ragab, A.M. (2017). Crisis management Actions in the Egyptian Travel Agencies: A Managerial Perspective. *Journal of the Faculty of Tourism and Hotels-University of Sadat City*, 1(1), 111-131.

- Tavitiyaman, P., Zhang, H. Q., Law, V. T., & Lin, P. M. (2016). Exploring the environmental scanning of the hotel industry in China. *Journal of China Tourism Research*, 12(3-4), 313-330.
- Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of management review*, 11(4), 801-814.
- World Health Organization. (2020, March,11). WHO Director-General's opening remarks at the media briefing on COVID-19 – 11 March 2020. Retrieved from <https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020>
- Yang, Y., Zhang, H., & Chen, X. (2020). Coronavirus pandemic and tourism: Dynamic stochastic general equilibrium modeling of infectious disease outbreak. *Annals of Tourism Research*, 102913.

# Trend of International Arrivals at Chiang Mai International Airport

*Teerapon Rattanaajalearnpornchai*

## Abstract

In the study, the author study about trend, seasonal variation of arrivals flights at Chiang Mai International Airport. And forecast the amount of arrivals flights via Classical Time Series Analysis. From the study found that the trend of arrivals flights is increasing and changes according to the seasons in normal circumstances. And also create the formula to forecast the amount of arrivals flight compare with actual situation. Chiang Mai International Airport and relevant agencies can use this information for planning and managing tourism industry.

**Keywords:** Arrivals flight, Chiang Mai International Airport, Tendency, Seasonal Variation, Forecasting

## Introduction

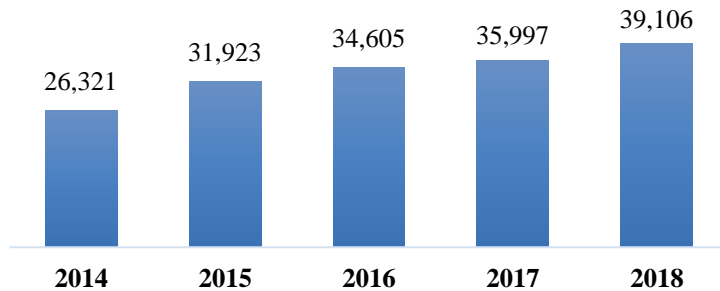
Nowadays, the tourism industry is an important industry that is able to generate lots of income for Thailand. In 2017, Thailand received more than more than 2.75 trillion baht from tourism industry, an increase of 9.47% on 2016. This amount included foreigners that came to Thailand 35,381,210 people. It could earn up to 1.82 trillion baht (Ministry of Tourism and Sport, 2018). From the data, ratings found that most of the tourists that arrive in Thailand, the first is tourists from East Asia, and the second is tourists from Europe, South Asia, and the United States.

Fundamentally, the number of tourist arrivals is not only the key determinant for a successful tourism business, but it is also the key source of anxiety for private sector entrepreneurs and government policymakers. In 2018, UNWTO had reported data on the 2018 that tourist numbers reached 1.4 million worldwide with key factors from economic growth, technological advances, and more comprehensive air transport. (New straits times, 2019)

The tourism industry contributes to supporting the income of the country. And also affects the part of economics, society, and international relations. Besides, the tourism industry is also linked with Thailand's policy that allocates the income through locals and people in the countryside. The Thai government gives precedence to improve many tourist attractions, provide the information, and facilitate in every factor for traveling (Thai government argument, 2014). And in 2018, the Thai government announced a year of Thai style tourism (Amazing Thailand Year 2018) and support about tourism in the provinces and secondary towns (Ministry of Tourism and Sport, 2018).

Chiang Mai is a popular province that generates a lot of income for Thailand because it has many tourist attractions, natural attractions, and facilities. In 2020, Chiang Mai was ranked 4 out of 25 in the World's Best Awards Survey from travel and leisure magazines. (Travel and Leisure, 2020)

In 2018, AOT had reported the total of arrivals aircraft movement reached 39,106 flights at Chiang Mai International Airport and the tendency of aircraft movement also increased continuously as figure 1.



**Figure 1** Amount of total flight at Chiang Mai International Airport (Airport of Thailand Plc., 2020)

This bar chart shows that has many tourists visited Chiang Mai each year. However, Chiang Mai also faced a problem with tourist overcrowding, environmental problems, etc. So related government agencies came together to create the Chiang Mai's development plan. Examples of relevant development plans, such as investment in light rail. In 5-10 years, Nimman will be set to be an international tourism and walking district with accessible transport links. The most suitable public transportation system for Chiang Mai is the rail system or light rail system which does not invest much compared to the subway. And also promoting community economy along the route as well (Bunyaprawit, 2017).

From the above issue, the researcher is also interested in the importance of tendency and forecasting arrival passengers from aircraft movement at Chiang Mai International Airport. The data would advantageous to many institutes. For example, Chiang Mai institute, Chiang Mai International Airport institute, hotel business, Tourism Authority of Thailand, etc. in order to apply with travel planning, manage travel policy and improve tourism in Chiang Mai to perform as intended.

### **Purpose of research**

1. To study the trend of the arrivals flight and seasonal variation at Chiang Mai International Airport.
2. To forecast the amount of arrival flights at Chiang Mai International Airport.
3. To suggest policy recommendations about tourism management of Chiang Mai Province.

## Literature Review

Trend study is forecasting or prediction of something that will increase or decrease in the future, or obvious changes. Accurate forecasting of future tourist flow is essential to determine successful investments in the tourism industry, for both the public and the private sectors. For the public sector, an estimation of tourism demand is important in order to make efficient use of transportation and resources (Coshall, 2006). For the private sector, such as airlines, accurate tourism forecasting is useful for planning aircraft, facilities and manpower needs (Yu & Meng, 2010).

The study of tourism Trend and seasons is important with the Tourism Authority of Thailand and various related agencies. For example, the Tourism Authority of Thailand studied Trend and directions of tourism in 2020 via document research, specified interview and brainstorming with relevant tourism businesses. And the World Tourism Organization (UNWTO) forecast that in 2020, will have the tourist more than 1.6 billion peoples. The most popular travel destination is East Asia with South East Asia as the second. In addition, tourists will visit other regions from 18% to 24%. And Thailand will have the number of tourist's 41.5 million people (Tourism Authority of Thailand, 2015).

The study of tourism Trend in Thailand has been interesting from academics for some time. For example, Junbadao & Simasatean (2013) analyzed Statistical Correlation Analysis for Phuket Airport Development. They analyzed the relation of the amount of tourists with years of service from 2002 to 2011 and forecast the growth rate of the number of aircraft movements and the number of passengers at Phuket Airport from 2012 to 2021. The data showed that years of service and the number of passengers at Phuket Airport from 2002 to 2011 having a relationship in the same direction with total aircraft movement. And the forecasting of aircraft movement at Phuket Airport from 2012 to 2021 also has a higher growth rate.

In many countries, the studying of Trend and tourism seasons is very necessary. In 2015, Zdenko Cerović, Sanda Grudić Kvasić, and Ivana Ivančić from University of Rijeka studied about Forecasting Tourism Demand – The Case of the City of Rijeka. The forecasting tourism demand is based on classical time series analysis. The model estimation is based on the quarterly data of the realized number of tourist arrivals in the city of Rijeka in the period from the first quarter of 2006 to the last quarter of 2015 and was used to forecast values for the period from the first quarter of 2016 to the last quarter of 2020. The result was domestic and foreign tourist arrivals showed a downward trend in domestic tourist arrivals in the observed period, contrary to an upward growth trend in the number of foreign tourist arrivals. Also, unlike domestic tourism demand in Rijeka, foreign tourism demand is especially affected by seasonality.

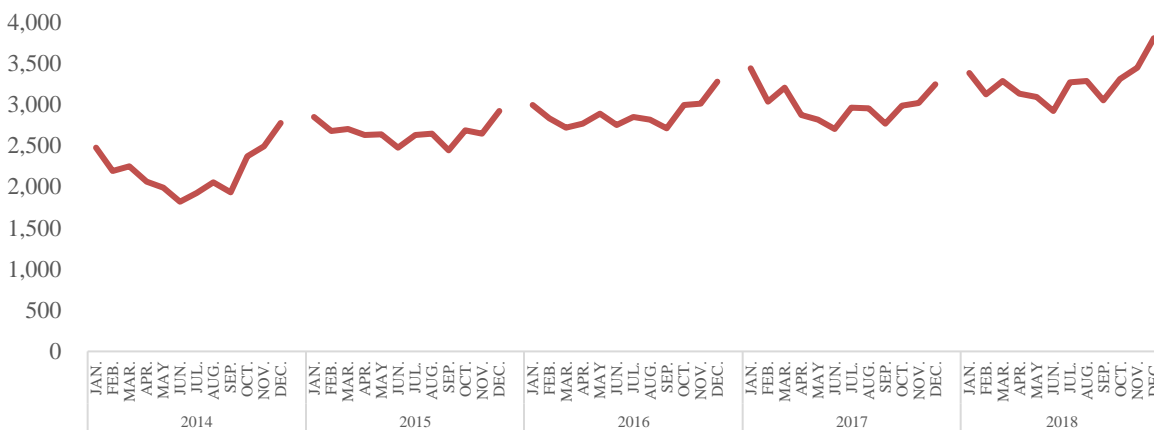
From relevant literature review shows that Trend and seasons study is very important for tourism management. The obtained data from the analysis is very useful for relevant tourism institute to plan and cope with the changing conditions of society appropriately. And Trend's study of

International Arrivals to Chiang Mai International Airport will be an important part of the Chiang Mai tourism development planning and related agencies leading to the country's income and has many tourists who want to visit to Chiang Mai again in the future.

## Methodology

### Data

The information that uses in Trend's study of International arrivals at Chiang Mai Airport is air transport statistics: the number of monthly arrival flights at Chiang Mai International Airport from January 2014 to December 2018 for 60 months (Airports of Thailand Public Company Limited) searched from <http://aot-th.listedcompany.com/transport.html> on 4 January 2020.



**Figure 2** Amount of arrival flights at Chiang Mai International Airport from 2014 – 2018 (Airport of Thailand Plc., 2020)

### Data analysis

This study analyze via Classical Time Series Analysis, which is popular in business. Classical Time Series Analysis is the methodology that collect the data in every year and separates time series into different components. This point makes author can explain and understand the rise or fall of some part of time series.

Classical Time Series Analysis has the prototype as following

$$Y = T \times S \times C \times I$$

With

- Y is Time Series Data
- T is Trend Component
- S is Seasonal Component
- C is Cyclical Component
- I is Irregular Component



Since the data about the number of arrival flights at Chiang Mai International Airport from 2014 – 2018 that used in this study do not have the cyclical variation and irregular variation clearly. (Set  $C \times I = 1$ ) So forecasting only have trend data and seasonal variation as following

$$\hat{Y} = \hat{T} \times \hat{S}$$

With

$$\hat{T} = a + bX$$

$$a = \frac{\sum y}{n}$$

$$b = \frac{\sum xy}{\sum x^2}$$

### Forecasting Accuracy Measurement

When using the model for forecasting, it might have some discrepancy from reality. The forecasted values are different from the actual values more or less. Forecasting accuracy measurement has many methods and this study use Mean Absolute Percentage Error: MAPE which calculates the percentage of discrepancy from the following formula.

$$MAPE = \left( \frac{100}{n} \right) \sum_{t=1}^n \left| \frac{y_t - \hat{y}_t}{y_t} \right|$$

**Table 1** Explaining the meaning of MAPE

MAPE (%)	Meaning
Less than or equal to 10	Very accurate
Between 10 to 20	Accurate
Between 20 to 50	Less reliable
More than 50	Unreliable

### Result

#### Trend of arrivals flight at Chiang Mai International Airport

The author created the formula for forecasting the amount of arrivals flight at Chiang Mai International Airport via Least Squares Method

$$\hat{Y} = \hat{T} \times \hat{S}$$

With

$$\hat{T} = a + bX$$

$$a = \frac{\sum y}{n}$$

$$b = \frac{\sum xy}{\sum x^2}$$

The Y value means actual arrivals flights at Chiang Mai International Airport in each month from

2014 to 2018, totally 60 months. And the X value means the hypothetical value from ..., -5,-3,-1, 1, 3 5, ... following Y value , where the -1,1 value is in the middle of the Y.

Result of the trend of arrival flight at Chiang Mai International Airport via Least Squares Method show amount of flight tends to increase with using the estimate trend formula is  $\hat{T} = 2,799.20 + 10.12X$

### Seasonal Variation of arrivals flight at Chiang Mai International Airport

The result of seasonal variation of arrivals flight at Chiang Mai International Airport via finding the season index that the author calculated from the formula  $\hat{T} = 2,799.20 + 10.12X$ .

In January, there is the largest number of arrivals flight (more than usual 12.78%). Next is December (more than usual 10.30%), March (more than usual 3.71%), February (more than usual 2.46%), November (more than usual 1.24%), and October (more than usual 0.09%).

And the month that has the seasonal index lower than usual is April (less than usual 1.99%), August (less than usual 3.02%), May (less than usual 3.10%), July (less than usual 3.43%), June (less than usual 9.39%), and September is the month with the lowest seasonal index (less than usual 9.63%) as shown in table 2.

**Table 2** Season index of arrivals flight at Chiang Mai International Airport

Month	2014	2015	2016	2017	2018	Average	Season index
January	1.1226	1.1632	1.1120	1.1744	1.0653	1.1275	1.1278
February	0.9850	1.0847	1.0457	1.0278	0.9781	1.0243	1.0246
March	1.0006	1.0871	0.9955	1.0777	1.0230	1.0368	1.0371
April	0.9117	1.0500	1.0074	0.9611	0.9687	0.9798	0.9801
May	0.8703	1.0444	1.0441	0.9340	0.9507	0.9687	0.9690
June	0.7893	0.9709	0.9871	0.8915	0.8904	0.9058	0.9061
July	0.8280	1.0236	1.0134	0.9691	0.9930	0.9654	0.9657
August	0.8776	1.0229	0.9956	0.9598	0.9918	0.9695	0.9698
September	0.8177	0.9383	0.9516	0.8953	0.9141	0.9034	0.9037
October	0.9923	1.0220	1.0435	0.9592	0.9861	1.0006	1.0009
November	1.0368	0.9976	1.0407	0.9639	1.0213	1.0121	1.0124
December	1.1444	1.0935	1.1256	1.0297	1.1200	1.1026	1.1030
<b>Total</b>						<b>11.9965</b>	<b>12.0000</b>

\* Reader can read the appendix (Table 6) for more information.

### Forecasting of arrivals flight at Chiang Mai International Airport in 2019 - 2020

The model that used for forecasting the amount of arrivals flight at Chiang Mai International Airport is  $\hat{T} = (2799.20 + 10.12X_t) \times \hat{S}$ . The author can predict the number of arrivals flight in

2019 - 2020 as figure 3.



**Figure 3** Forecasting of arrivals flight at Chiang Mai International Airport

### Forecasting of arrivals flight at Chiang Mai International Airport in 2020

The forecasting model ( $\hat{Y} = (2799.20 + 10.12X_t) \times \hat{S}$ ) can predict the number of arrivals flight in 2020 as shown in table 3

**Table 3** Forecasting of arrivals flight at Chiang Mai International Airport in 2020

Month	$\hat{T}$	$\hat{S}$	Amount of arrivals flight ( $\hat{T} \times \hat{S}$ )
January	3,659	1.1278	4,128
February	3,680	1.0246	3,771
March	3,700	1.0371	3,838
April	3,720	0.9801	3,647
May	3,740	0.9690	3,625
June	3,761	0.9061	3,408
July	3,781	0.9657	3,652
August	3,801	0.9698	3,687
September	3,821	0.9037	3,455
October	3,842	1.0009	3,846
November	3,862	1.0124	3,910
December	3,882	1.1030	4,282

## The measurement of the accuracy of the models used in forecasting

In this study, we have made an accurate measurement of the model used to forecast via Mean Absolute Percentage Error: MAPE which is calculated as 7.49% means the error in forecasting is 7.49 % which is assumed that the forecasting model is very accurate.

**Table 4** Comparing the arrivals flight at Chiang Mai International Airport in 2019 from actual flight with formula forecasting

Month	Actual ( $Y$ )	Forecasting in 2019 ( $\hat{Y}$ )	Difference ( $Y - \hat{Y}$ )
January	3,915	3,854	+ 61
February	3,465	3,522	- 57
March	3,694	3,586	+108
April	3,277	3,409	- 132
May	3,107	3,390	- 283
June	2,983	3,188	- 205
July	3,162	3,417	- 255
August	3,200	3,451	- 251
September	2,900	3,234	- 334
October	3,222	3,602	- 380
November	3,314	3,664	- 350
December	3,523	4,014	- 491

## Discussion and Conclusion

### 5.1 Discussion

From a study of international arrivals trends at Chiang Mai International Airport, the author can discuss the result as following.

The amount of arrivals flight at Chiang Mai International Airport had an effect from trend and seasonal variation. The number of arrivals at Chiang Mai Airport is increasing in each year. And each year, the amount of arrivals flight will start high at the beginning of the year. Then gradually declined until June and then gradually returned to higher at the end of the year. The high number of arrivals flights at the beginning or end of the year caused by the changing of tourist season and domestic tourism activities.

The author forecast the arrivals flight at Chiang Mai International Airport by Classical Time Series Analysis. The result shows that arrivals flight tends to increase and fluctuate following the seasons. Forecasting amount of arrivals flight can use the formula  $\hat{T} = 2,799.2 + 10.12X$  and the 3 largest

number of arrivals flight is January (more than usual 12.78%). Next is December (more than usual 10.30%), March (more than usual 3.71%) And the 3 least number of arrivals flight in July (less than usual 3.43%), June (less than usual 9.39%), in September has the lowest of arrivals flight (less than usual 9.63%). And this information is not influenced by cyclical variation and irregular variation.

## 5.2 Conclusion

Chiang Mai International Airport and relevant organization can use trend study data for creating new tourism management policies to improve the image of the province and facilities. Including maintaining the tourist attractions to welcome tourists at the time that tourist numbers are high. In addition, the logistics company might increase the number of public transport passes or arrivals flight, and manage public transportation sufficient with the number of tourists that increase every year.

This study shows the tendency of arrivals flight at Chiang Mai International Airport is continuously increasing in normal circumstances. The situation of the Covid-19 virus outbreak affects the conditions of tourism around the world that cannot travel properly. Studying tourism trends may therefore unpractical in emergencies. Those using the information should study the various factors and risks involved in planning and developing the business in the future.

In the future, those interested in learning information about forecasting also can use others methodology for studying. For instance, Seasonal ARIMA Model. If researcher wants to analyze other relevant factors also can use economic calculation methods. For example, GARCH Process.

## References

- Airports of Thailand Plc. (2020) Air transport statistics from 2014 – 2019. Retrieved January 2, 2020, from <http://investor.airportthai.co.th/transport.html>
- Bunyaprawit, T. (2017). Chiang Mai development plan: improve public transportation to be smart growth city. Retrieved January 18, 2020, from <https://www.prachachat.net/facebook-instant-article/news-87697>
- Chan-o-cha, P. (2014). Thai government argument. Retrieved January 9, 2020, from [https://www2.opdc.go.th/Law/File\\_download/law19957.pdf](https://www2.opdc.go.th/Law/File_download/law19957.pdf).
- Coshall, J. (2006). Time series analysis of UK outbound travel by air. *Journal of Travel Research*, 44, 335–347.
- Junbadao, W., & Simasatean, P. (2013). Statistical Correlation Analysis for Phuket Airport. *Eastern Asia University Academic Journal*, 7(2). 79-86
- Ministry of Tourism and Sport. (2018). Amazing Thailand Tourism. Retrieved January 7, 2020, from <https://www.amazingthailand.go.th/th/>.

- Nation TV. (2018). Tourism income in 2017 over 2.75 trillion baht. Retrieved January 9, 2020, from <https://www.nationtv.tv/main/content/378596604/>.
- New straits times. (2019). International tourist numbers up 6% to 1.4 billion in 2018: UN. Retrieved September 8, 2020, from <https://www.nst.com.my/world/2019/01/453013/international-tourist-numbers-6-14-billion-2018-un>
- Travel and Leisure. (2020). the Top 25 Cities in the World. Retrieved September 8, 2020, from <https://www.travelandleisure.com/worlds-best/cities>
- Tourism Authority of Thailand. (2015). Trend and directions of tourism in 2020 (Thai Tourism Scenario 2020). Retrieved January 19, 2020, from <https://issuu.com/etatjournal/docs/tat22015>.
- Yu, WC., & Meng, YL. (2010). A Seasonal ARIMA Model of Tourism Forecasting: The Case of Taiwan. *Asia Pacific Journal of Tourism Research*, 15(2). 2.
- Zdenko, C., Sanda, K., & Ivana, I. (2015). Forecasting Tourism Demand – The Case of the City of Rijeka. *University of Rijeka Research*, 750-763.

## Appendix

**Table 5** Calculating the formula  $\hat{T} = 2,799.20 + 10.12X$

Year	Month	X (Hypothetical value)	$X^2$	Y (Actual flight)	XY
2014	1	-59	3481	2,472	- 145848
	2	-57	3249	2,189	- 124,773
	3	-55	3025	2,244	- 123,420
	4	-53	2809	2,063	- 109,339
	5	-51	2601	1,987	- 101,337
	6	-49	2401	1,818	- 89,082
	7	-47	2209	1,924	- 90,428
	8	-45	2025	2,057	- 92,565
	9	-43	1849	1,933	- 83,119
	10	-41	1681	2,366	- 97,006
	11	-39	1521	2,493	- 97,227
	12	-37	1369	2,775	- 102,675

2015	13	-35	1225	2,844	- 99,540
	14	-33	1089	2,674	- 88,242
	15	-31	961	2,702	- 83,762
	16	-29	841	2,631	- 76,299
	17	-27	729	2,638	- 71,226
	18	-25	625	2,472	- 61,800
	19	-23	529	2,627	- 60,421
	20	-21	441	2,646	- 55,566
	21	-19	361	2,446	- 46,474
	22	-17	289	2,685	- 45,645
	23	-15	225	2,641	- 39,615
	24	-13	169	2,917	- 37,921
2016	25	-11	121	2,989	- 32,879
	26	-9	81	2,832	- 25,488
	27	-7	49	2,716	- 19,012
	28	-5	25	2,769	- 13,845
	29	-3	9	2,891	- 8,673
	30	-1	1	2,753	- 2,753
	31	1	1	2,847	2,847
	32	3	9	2,817	8,451
	33	5	25	2,712	13,560
	34	7	49	2,995	20,965
	35	9	81	3,008	27,072
	36	11	121	3,276	36,036
2017	37	13	169	3,442	44,746
	38	15	225	3,033	45,495
	39	17	289	3,202	54,434
	40	19	361	2,875	54,625
	41	21	441	2,813	59,073
	42	23	529	2,703	62,169
	43	25	625	2,958	73,950
	44	27	729	2,949	79,623
	45	29	841	2,769	80,301
	46	31	961	2,986	92,566
	47	33	1089	3,020	99,660
	48	35	1225	3,247	113,645

2018	49	37	1369	3,381	125,097
	50	39	1521	3,124	121,836
	51	41	1681	3,288	134,808
	52	43	1849	3,133	134,719
	53	45	2025	3,094	139,230
	54	47	2209	2,916	137,052
	55	49	2401	3,272	160,328
	56	51	2601	3,288	167,688
	57	53	2809	3,049	161,597
	58	55	3025	3,309	181,995
	59	57	3249	3,448	196,536
	60	59	3481	3,804	224,436
<b>Total</b>	<b>N = 60</b>		<b>71,980</b>	<b>167,952</b>	<b>728,560</b>

$$a = \frac{\sum y}{n} = \frac{167952}{60} = 2799.2$$

$$b = \frac{\sum xy}{\sum x^2} = \frac{728560}{71980} = 10.12$$

$$\hat{T} = 2799.2 + 10.12X$$

**Table 6** Calculating the season index of arrivals flight at Chiang Mai International Airport

Year	Month	X (Hypothetical value)	$\hat{T} = 2799.2 + 10.12X$	Y	Y / T
2014	1	-59	2202.12	2,472	1.1226
	2	-57	2222.36	2,189	0.985
	3	-55	2242.6	2,244	1.0006
	4	-53	2262.84	2,063	0.9117
	5	-51	2283.08	1,987	0.8703
	6	-49	2303.32	1,818	0.7893
	7	-47	2323.56	1,924	0.828
	8	-45	2343.8	2,057	0.8776
	9	-43	2364.04	1,933	0.8177
	10	-41	2384.28	2,366	0.9923
	11	-39	2404.52	2,493	1.0368
	12	-37	2424.76	2,775	1.1444



2015	13	-35	2445	2,844	1.1632
	14	-33	2645.24	2,674	1.0847
	15	-31	2485.48	2,702	1.0871
	16	-29	2505.72	2,631	1.05
	17	-27	2525.96	2,638	1.0444
	18	-25	2546.2	2,472	0.9709
	19	-23	2566.44	2,627	1.0236
	20	-21	2586.68	2,646	1.0229
	21	-19	2606.92	2,446	0.9383
	22	-17	2627.16	2,685	1.022
	23	-15	2647.4	2,641	0.9976
	24	-13	2667.64	2,917	1.0935
2016	25	-11	2687.88	2,989	1.112
	26	-9	2708.12	2,832	1.0457
	27	-7	2728.36	2,716	0.9955
	28	-5	2748.6	2,769	1.0074
	29	-3	2768.84	2,891	1.0441
	30	-1	2789.08	2,753	0.9871
	31	1	2809.32	2,847	1.0134
	32	3	2829.56	2,817	0.9956
	33	5	2849.8	2,712	0.9516
	34	7	2870.04	2,995	1.0435
	35	9	2890.28	3,008	1.0407
	36	11	2910.52	3,276	1.1256
2017	37	13	2930.76	3,442	1.1744
	38	15	2951	3,033	1.0278
	39	17	2971.24	3,202	1.0777
	40	19	2991.48	2,875	0.9611
	41	21	3011.72	2,813	0.934
	42	23	3031.96	2,703	0.8915
	43	25	3052.2	2,958	0.9691
	44	27	3072.44	2,949	0.9598
	45	29	3092.68	2,769	0.8953
	46	31	3112.92	2,986	0.9592
	47	33	3133.16	3,020	0.9639
	48	35	3153.4	3,247	1.0297

2018	49	37	3173.64	3,381	1.0653
	50	39	3193.88	3,124	0.9781
	51	41	3214.12	3,288	1.023
	52	43	3234.36	3,133	0.9687
	53	45	3254.6	3,094	0.9507
	54	47	3274.84	2,916	0.8904
	55	49	3295.08	3,272	0.993
	56	51	3315.32	3,288	0.9918
	57	53	3335.56	3,049	0.9141
	58	55	3355.8	3,309	0.9861
	59	57	3376.04	3,448	1.0213
	60	59	3396.28	3,804	1.12
<b>Total</b>	<b>N = 60</b>				

# Customer experience, satisfaction and loyalty of Hong Kong's theme park

*Yuen Lo Tang & Xinyan Zhang*

## **Abstract**

Monitoring customer satisfaction is essential to assist and assure an overall good customer experience, loyalty and repeat visiting behavior. This report investigates customer experience, satisfaction and loyalty about Hong Kong theme parks, with a focus on domestic customers. This study emphasizes on determining important factors which impact customer satisfaction of the entire theme park experience. The findings indicate that ride facilities, staff attitude or behavior and staff problem-solving skills are influential factors of customer satisfaction and loyalty.

**Keywords:** experience, satisfaction, loyalty, theme parks, tourism

## **Introduction**

Theme parks established a phantasy atmosphere of another site and moment. Milman, Okumus, and Dickson (2010) mentioned that customers experience impact by landscaping, architecture, shows, rides, costumed personnel, merchandising, food services and other environmental attributes. The reason for visiting a theme park is to have a memorable experience of fun and excitement. The operator should monitor consumers' experience and satisfaction.

The theme park industry has long-term development. At the end of 2008, about 186 million visitors have explored the top 25 amusement or theme parks worldwide (Themed Entertainment Association, 2009). Top 25 theme or amusement parks worldwide have 252 million attendance in 2018, which represent a 26.2% increase in 2008. International Association of Amusement Parks and Attractions (2018) assert the Asia Pacific will occupy more than half of the global growth in attendance for amusement parks. Therefore, the Asia Pacific market is an enormous market for the theme park industry.

The Hong Kong theme park industry has grown rapidly. By the end of 2018, around 13 million tourists and residents had visited Hong Kong theme park (Hong Kong Disneyland, 2019; Noah's Ark Hong Kong, 2019; Ocean Park Hong Kong, 2018). Themed Entertainment Association (2019) mentioned Hong Kong Disneyland and Ocean Park Hong Kong are among the most prevalent travelers attractions in Hong Kong, which ranked the sixteen and twenty most sought locations by tourists separately in 2018. It can indicate the theme park industry is significant in Hong Kong.

Hong Kong is one of attractiveness for visitors to visit theme parks since its favorable environment and spending power. Per capita gross domestic product is HK\$380,503 in Hong Kong in 2018 (Census and Statistics Department Hong Kong Special Administrative Region, 2020). The residents have a higher wallet share. They can spend money on leisure activities. Although Hong Kong have sultry weather, where also have typhoons. To answer these issues, Hong Kong's theme parks adopt indoor ride or show performance.

Domestic visitors are one of the repeat customers of Hong Kong's theme park (Wu, Li & Li, 2018). Repeat customers are the key to a successful business. There can have various benefits, such as brand advocates, less costly, more purchases and less-price sensitivity (Perdue & Immermans,

2004). Brand advocates can have free marketing, like word-of-mouth advertising. Repeat customers are significantly less cost due to when you attract a new client, the business should spend many costs of marketing (Legohérel, Fyall, & Poutier, 2013). The repeat customer will more purchases, like food and beverage or merchandise in the theme park. There also will less price sensitivity since the business has built trust. This study will therefore focus on domestic customers.

The objectives of this research are (1) to explore the theme park experience of domestic guests, (2) to investigate the relationship between customer experience, satisfaction and loyalty in Hong Kong theme park.

## **Literature review**

### **Customer experience**

Holbrook & Hirschman (1982) stated that the term of 'experience' usually means products or services providing in service frameworks and it involves hedonic consumption, such as journey, hotel and theme park. Customer experience is the emotion or impression of the business. It results in the cognition of the brand in every touchpoint of the consumptions process. The customer experiences of theme parks include three major elements, it includes (i) the physical environment, (ii) interactions with employees, and (iii) interactions with other clients within the theme park (Garrod & Wanhill, 2008).

#### *Physical environment*

Mossberg (2007) mentioned that the atmosphere and physical environment together establish the unique customer experience in the hospitality industry, for example, theme park architecture and landscape. The physical environment can be divided into three components, i.e. comfort levels, perception of value and sensory elements (Ayoko & Ashkanasy, 2019). First, physical comfort decides customer experience. Theme park comfort levels mainly consider layout archetypes design, like the hub and spoke layout and organic layout, etc. Theme park layout archetypes is a system allowing comings and goings in limited space. They also provide the parade route and queueing management. Second, perception of value is defined as delivering value or belief in the theme park, for instance, Hong Kong Disneyland provides fantasy world and Ocean Park transfers environment protection value. That is the physical environment design of theme parks. Third, sensory elements are the main physical environment impacts of customers' experiences. For example, the sight of attractions and decoration of entrance corridor or neutral areas, etc. The smell means theme park odor design, such as fruit smell. The hearing is music design, like birds' sound.

### *Interactions with employees*

Peppers and Rogers (2016) emphasized the importance of frontline employees since the performance of frontline employees will affect the customer's experiences. Customer interactions with employees during service experiences in the hospitality industry are important in forming customer experience. The factors include employee attitude, behavior, expertise and problem-solving (Prebensen, Chen & Uysal, 2017). In the theme park, the human department provides different training to employees, such as the delivery value of the corporation and on-job-training.

### *Interactions with other clients*

In theme parks, customers have a high level interaction with each other (Scott, Laws & Boksberger, 2010). Customer experience might be affected by other customers' behavior. However, another client's behavior is difficult to control. Theme parks can set some rules to ensure each customer's rights and interests. The employees could friendly remind the visitors about the rules.

## **Customer satisfaction**

Baran and Galka (2016) define the satisfaction was divided into 2 sections - cognitive response and affective response. "Cognitive response" stated the objective evaluations of product or service attributes, while "affective response" referred to the subjective psychological emotions or feelings felt by customers during the consumption process. In the theme park, "cognitive response" covers theme park design or ride and attraction, show performance feedback. On the other hand, "affective response" implies the emotion and feeling of atmosphere, as well as the interaction with actors or staffs.

According to the SERVQUAL model, customer satisfaction is measurable, mostly influenced by the expectations and actual customer experience (Parasuraman, Zeithaml & Berry, 1988). SERVQUAL is a famous measurement tool for service quality in different industries, including the hospitality industry. SERVQUAL model can be defined as measure the competitive advantage of service quality compared with other existing products (Parasuraman, Zeithaml & Berry, 1988). Parasuraman, Zeithaml and Berry, (1985) stated that according to appendix 1, it measures the service quality might have five gaps, (1) difference among customer expectations and management perceptions of customer expectations, (2) difference between management perceptions of customer expectations and service quality specifications, (3) difference between service quality specifications and the service actually delivered, (4) difference among service delivery and the communicated about the service to customer and (5) difference between service expectation and perceived service quality. The SERVQUAL model has five measures, including assurance, responsiveness, empathy, tangibles, and reliability (Parasuraman et al., 1988). It is related to customer experience. For example, Tangible is guests respond to the environment of theme park establishments, such as clean restrooms and knowledgeable staffs, etc. Reliability is the theme

park that provides the same products with marketing and promotion. It is contributed to design the customer satisfaction questionnaire.

Buttle and Maklan (2019) stated the final purpose of a business was satisfying customers since this can enhance profits and repeat purchasing behavior. The business proprietor and product development department should identify and understand the customer expectations, and design and develop suitable products or services.

### **Customer loyalty**

Customer loyalty relates to the analysis of customer behavior, like revisit intention, word-of-mouth and join the member club. Satisfied customers will more possibly be loyal consumers of products or services and give positive feedback to other clients according to their experiences (Buttle, 2008). Several kinds of research indicated loyalty customers are less sensitive to price and more willing to pay a higher premium price (Buttle and Maklan, 2019), such as theme park ticket, membership and retail product.

### **Methodology**

This is an exploratory study. The target population is customers who visited theme parks in Hong Kong in the past 3 years. Depend on the proprietary nature of the data, the respondents will be at least 5-year-old. Over a 5-year-old person begin to have their own mindset (Scott, 2008).

### **Instrument design**

The questionnaire was devised into four segments: (1) experience of theme park, (2) customer expectation, (3) satisfaction and revisit intention and (4) personal information. First, section (1) - the experience of the theme park was divided into three questions. It included whether respondents have visited theme park experience in the past three years. Second, section (2) - customer experience and expectation on the basis of the SERVQUAL model, which can measure customers' experience and actual performance of Hong Kong's theme park (Parasuraman et al., 1985). Several questions of 5-point agreement/disagreement scales regarding the (i) the physical environment, (ii) interactions with employees, and (iii) interactions with other clients within the theme park, were asked to solicit additional information. Majority of the questions were structured, 5-point agreement/disagreement scales or soliciting opinions on alternative responses regarding customer satisfaction and customer loyalty. The final part is collected demographic characteristics information, such as gender, age, education level and marital status. About the age, there were 4 choices to respondents, i.e. 5 to 17, 18 to 30, 30 to 64 and 65 to over 65. For 5 to 17 respondents, it is children to teenager range. For 18 to 30 respondents, it is an adult but less work experience and income may be relatively lower. For 30 to 64 respondents, it is a higher income range as a consumer, they might spend more on purchase. For 65 to over 65 respondents, it is silver hair and enjoys preferential price of theme park tickets. Regarding marital status, it was segmented into married, single, divorced and widowed. However, the survey was only collected married and single respondents.

### **Sampling**

This study used an online survey distributed to residents on mail and social media during 2 months (March 2020 - April 2020). The convenience sampling method was applied. The survey was distributed to subscription Hong Kong's theme park social media fan pages followers. The relative

cost and time demanded to conduct a convenience sample method are small (Etikan, Musa, & Alkassim, 2016). There enabled the sample size faster and more inexpensive. 200 questionnaires were distributed and 86 questionnaires were collected. Among them, 80 questionnaires were completed. The response rate was 43%.

### Data analysis

The data of questionnaires were analysed using the SPSS. The data were analyzed by the application of various methods. Frequency analysis was utilized to demographic characteristics of respondents and the theme park experience from domestic guests. Linear regression analysis was adopted to investigate the relationship between customer experience, satisfaction and loyalty in the Hong Kong theme park.

### Findings

#### *Demographic characteristics of respondents*

Table 1 delineates the demographic characteristics information of respondents. The respondents are of the age between 6-17 years old (n=17, 21.3%), 18 - 30 years old (n=47, 58.8%), 31 - 64 years old (n=11, 13.8%) and more than 65 years old (n=5, 6.3%). 43.8% of respondents are male (n=35) and 56.3% are female (n=45). 80.2% of respondents are single (n=69) and 13.8% are married (n=11). For the level of education, respondents are of primary school (n=5, 6.3%), high school (n=28, 35%), associate degree or higher diploma (n=16, 20%), bachelor's degree (n=26, 32.5%) and master degree (n=5, 6.3%).

**Table 1:** Demographic Characteristics of Respondents

Characteristics	Frequency	Percentage (%)
Age:		
6 - 17	17	21.3
18 - 30	47	58.8
31 - 64	11	13.8
>65	5	6.3
Gender:		
Female	35	43.8
Male	45	56.3
Marital status		
Married	11	13.8
Single	69	80.2
Education:		
Primary school	5	6.3
High school	28	35
Associate degree /	16	20

Higher diploma		
Bachelor's degree	26	32.5
Master degree	5	6.3

#### *Importance of customers experience*

Table 2 shows the results of customer experience. The highest score from the domestic customers' perspective is park architecture and landscape (mean=3.64). The second highest is the theme of the park (mean=3.63) and staff attitude or behavior (mean=3.63). The third is ride facilities (mean = 3.55). The four is staff expertise or knowledge (mean=3.49). Domestic customers evaluated staff problem-solving skill (mean=3.41) perceive more positive on customer experience in Hong Kong's theme parks compared to domestic customers evaluated another client's participation (mean=3.06). Both of interactions with other clients, these were lower score of customers experience is, crowded control (mean=2.89) and other clients uncivilized behavior (mean=2.68).

**Table 2:** Means and std. deviation for customer experience

Customer experience	Mean	SD
Ride facilities	3.55	.845
Park architecture and landscape	3.64	.846
The theme of the park	3.63	.905
Staff attitude or behavior	3.63	.851
Staff expertise or knowledge	3.49	.941
Staff problem-solving skill	3.41	.924
Crowded control	2.89	1.114
Other clients uncivilized behavior	2.68	1.188
Another client's participation	3.06	.817

#### *Customers experience, satisfaction and customer revisit intention relationship*

The multiple regression results of customers experience, satisfaction and customer revisit intention relationship is explained in Table 3, and 4. Table 3 shows how customer experience affects customer satisfaction. Nine variables of customers experience indicate the regression values of customers satisfaction ( $R^2 = .86$ , adjusted  $R^2 = .84$ , F-value = 48,36,  $p < 0.01$ ). The element of ride facilities positively impacts customers satisfaction (unstandardized  $\beta = 0.57$ ,  $p < 0.01$ ). Besides, staff attitude or behavior also has positive impact on customers satisfaction (unstandardized  $\beta = 0.18$ ,  $p < 0.01$ ). Other customer experience (crowded control, other clients uncivilized behavior and staff problem-solving skill, etc.) have no impact on customers satisfaction ( $p > .05$ ). Moreover, as shown by Table 4, customers satisfaction demonstrates significant influences on customer revisit intention ( $R^2 = .36$ , adjusted  $R^2 = .35$ , F-value = 43.87,  $p < 0.01$ ).



**Table 3:** Regression analysis for customer experience affecting customers satisfaction

Variable	Unstandardized coefficients		<i>t</i> -value	<i>p</i> value
	B	Standard error		
(Constant)	.111	.119	.561	.577
Ride facilities	.578	.064	9.058	.000**
Park architecture and landscape	-.058	.067	-.871	.387
The theme of the park	-.023	.061	.370	.712
Staff attitude or behavior	.188	.055	3.409	.001**
Staff expertise or knowledge	.116	.054	2.148	.035
Staff problem-solving skill	.133	.046	2.887	.005*
Crowded control	.037	.047	.797	.428
Other clients uncivilized behavior	-.008	.050	-.159	.874
Another client's participation	.024	.064	.376	.708

\* $p < 0.05$ , \*\* $p < 0.01$

Adjusted  $R^2 = .84$ ,  $F = 48.362$ , significance  $F = .00$

**Table 4:** Regression analysis for customers satisfaction affecting customers loyalty

Variable	Unstandardized coefficients		<i>t</i> -value	<i>p</i> value
	B	Standard error		
(Constant)	.289	.450	.642	.523
Satisfaction	.820	.124	6.624	.000**

\* $p < 0.05$ , \*\* $p < 0.01$

Adjusted  $R^2 = .35$ ,  $F = 43.87$ , significance  $F = .00$

With reference to table 3 and 4, Figure 1 was constructed.

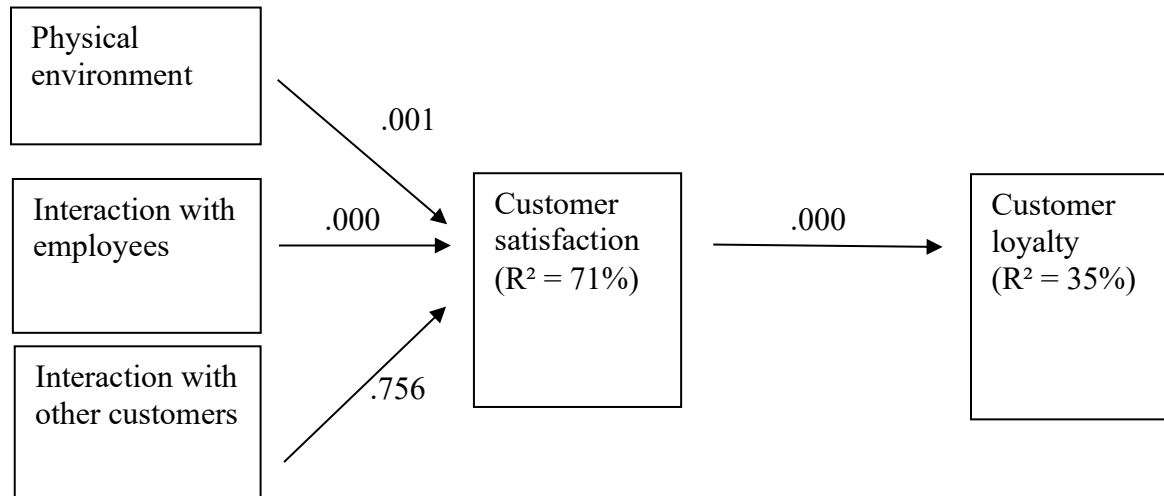


Figure 1 - Structure model result

## Discussions and Conclusion

In contrast with physical environment and interaction with employees, interaction with other customers has lower score in customer experience. Theme park operators are suggested to improve crowd control because queuing management and theme park layout can be controlled by theme park. There is the need to balance tourist visitors and local visitors. Even though tourist market is important theme parks also need to provide favorable and comfortable environment and service to domestic visitors.

Literature emphasized customer loyalty and revisit intention behaviors are important for theme park operation. The researchers introduced and examined a structure model that included hypothesis (customers experience - physical environment, interaction with employees and interaction with other customers) and result (customer satisfaction and customer loyalty).

Physical environment has significant impact of the customer satisfaction, especially ride facilities. Interaction with employees have significant influences customer satisfaction, specifically staff attitude or behavior and staff problem-solving skill. customer satisfaction also has significant impact of the customer loyalty. As the result of above, there will recommend improvement in two factors, such as ride facilities and human resources.

### ***Ride facilities***

Theme park ride and attraction design would provide stimulate emotional engagement (Younger, Rohde, & Baxter, 2016). About ride facilities, Hong Kong theme parks should enhance ride facilities innovation, expand local culture and improve event activities. First, Hong Kong's theme park can apply innovation technology to design ride facilities, such as virtual reality (VR) and four-dimensional space (4D). Universal Studios is one of the successful using innovation technology of ride facilities in theme parks. Luo and Lam, (2017) reported that innovation technology implantation in theme parks can increase customer experiences for customers, such as virtual reality (VR) and four-dimensional space (4D). Hong Kong Disneyland utilizes innovation technology currently, such as Iron Man Experience presented by VR and Mickey's PhilharMagic is a 3D film attraction (Hong Kong Disneyland, 2020a, Hong Kong Disneyland, 2020b). Ocean Park Hong Kong primary develop VR technology, it includes Samsung Gear VR presents Mine Train and The Abyss - VR Space Voyage (Ocean Park Hong Kong, 2020a, Ocean Park Hong Kong, 2020b). Second, Hong Kong's theme park would expand local culture, like Chinese culture. The ride and facilities or exhibition can append Chinese cultures, like music and dancing or fashion and clothing, etc. There can have a strong sense of emotional resonance amongst the visitors. It also can offer aesthetic social media hot spots to visitors. Third, Hong Kong theme parks can offer novelty event activities. Hong Kong Disneyland serves flights of fantasy parade to visitors from 2005 until now. There are difficult to stimulate visitors to repeat purchase.

### ***Human resources***

Hong Kong's theme parks should develop a people-oriented human resource vision. The organization value employees, which stimulate employees' initiative and consciousness (Fyall, Garrod, Leask & Wanhill 2008). Hong Kong's theme parks would strengthen employee skill training and improvement of employee perception. Hong Kong theme parks have provided various training for employees currently, such as orientation training and on-job-training. Hong Kong Disneyland offers orientation training for new employees. The orientation training relates to company culture and signal. Moreover, Hong Kong Disneyland and Ocean Park Hong Kong have on-job-training. It is the training of employees to control and manage rides or attractions. Hong Kong Disneyland also provides online training for full-time staffs and seasonal employees. There can enhance employee training. Swarbrooke, (2002) agreed that improving employee's conception can enhance employee's identification and cohesion of the paradise. That can enhance the capabilities of the entire team. Therefore, it effectively improves market competitiveness and promotes the development of Hong Kong's theme park. There also can adopt rotation training for

employees of ride operation. It is an additional service skill for multiple positions. It is increasing the freshness of employees and avoid boredom caused by repeated same work for a long time. There would reduce staff recruitment and improve work efficiency. For recruitment, Hong Kong theme parks should ensure part-time employees or seasonal worker's quality. Part-time employees or seasonal workers could evaluate the same criteria for recruitment. There also should regularly assess their working performance.

### ***Limitations and future research work***

There are several limitations of this research. First, the sampling cannot represent the population under study. The research may involve “sample bias” or “selection bias”. This is due to the limitations of the ability to approach the appropriate respondents or the geographical area involved is not wide enough. Second, there are insufficient samples. When conducting statistical research and wishing to obtain valid research results, a sufficient number of samples is very important. The larger the number of samples, the research results will be more accurate. But when the sample size is not large enough, it is more difficult to prove the significant relevance of the research content. Last, this research involves investigating a specific person or organization. It is due to the problem of not being able to approach more types of people. In order to solve this problem, the researcher may have to redesign or restructure of research methods. In this case, it should explain the reasons why it faced with data access restrictions and ensure that research results are still valid and trustworthy.

There has some suggestions for future research. First, it should adopt other sampling methods, like a random sampling method. This can avoid “sample bias” or “selection bias”. The sample size also could be expanded, such as collecting 500 data of the questionnaire. This can enhance the reliability of data analysis. Regarding the limitations of access to data, future research can consider on-site data collection. Data can be collected at the exits of theme parks in Hong Kong.

### **References**

- Ayoko, O. B., & Ashkanasy, N. M. (Eds.). (2019). *Organizational behaviour and the physical environment*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Buttle, F. (2008). *Customer relationship management*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Buttle, F., & Maklan, S. (2019). *Customer relationship management : Concepts and technologies*. ProQuest Ebook Central <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Baran, R. J., & Galka, R. J. (2016). *Customer relationship management : The foundation of contemporary marketing strategy*. ProQuest Ebook Central <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Census and Statistics Department Hong Kong Special Administrative Region. (2020). *2019 gross domestic product* [PDF file]. Retrieved from <https://www.statistics.gov.hk/pub/B10300022019AN19E0100.pdf>
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.

- Fyall, A., Garrod, D., Leask, A., & Wanhill, S. (2008). *Managing visitor attractions*. Oxford: Elsevier.
- Garrod, B., & Wanhill, S. (Eds.). (2008). *Managing visitor attractions*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Hirschman, E. C., & Holbrook, M. B. (1982). Hedonic Consumption: Emerging Concepts, Methods and Propositions. *Journal of Marketing*, 46(3), 92–101. <https://doi.org/10.1177/002224298204600314>
- Hong Kong Disneyland. (2019). *Hong Kong Disneyland Annual Business Review For The Fiscal Year 2018* [PDF file]. Retrieved from <https://hkcorporate.hongkongdisneyland.com/pdf/AnnualBusinessReview18.pdf>
- Hong Kong Disneyland. (2020a). *Mickey's PhilharMagic*. Retrieved from <https://www.hongkongdisneyland.com/attractions/mickeys-philharmagic/>
- Hong Kong Disneyland. (2020b). *Iron Man Experience - Presented by AIA*. Retrieved from <https://www.hongkongdisneyland.com/attractions/iron-man-experience/>
- International Association of Amusement Parks and Attractions. (2018). *2012 – 2022 Global Theme and Amusement Park Outlook* [PDF file]. Retrieved from [https://ttra.com/wp-content/uploads/2018/11/IAAPA\\_Amusement-Park Outlook\\_2018-2022.pdf](https://ttra.com/wp-content/uploads/2018/11/IAAPA_Amusement-Park Outlook_2018-2022.pdf)
- Luo, J. M., & Lam, C. F. (2017). Entertainment tourism. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Noah's Ark Hong Kong. (2019). *Noah's Ark Hong Kong Annual Business Review in financial year 2018/19* [PDF file]. Retrieved from [https://www.noahsark.com.hk/eng/pdf/Annual\\_Business\\_Review.pdf](https://www.noahsark.com.hk/eng/pdf/Annual_Business_Review.pdf)
- Milman, A., Okumus, F., & Dickson, D. (2010). The global theme park industry. *Worldwide Hospitality and Tourism Themes*.
- Mossberg, L. (2007). A marketing approach to the tourist experience. *Scandinavian journal of hospitality and tourism*, 7(1), 59-74.
- Ocean Park Hong Kong. (2018). *Ocean Park 2017/18 Results Reflect Ongoing Investment Park announces exciting edutainment offerings as it looks to the future*. Retrieved from <https://www.oceanpark.com.hk/en/press-release/ocean-park-201718-results-reflect-ongoing-investment-park-announces-exciting>
- Ocean Park Hong Kong. (2020a). *Samsung Gear VR presents Mine Train*. Retrieved from <https://www.oceanpark.com.hk/en/experience/attractions/attractions/mine-train%20>
- Ocean Park Hong Kong. (2020b). *The Abyss – VR Space Voyage*. Retrieved from <https://www.oceanpark.com.hk/en/experience/attractions/attractions/abyss>
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of marketing*, 49(4), 41-50.
- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple-item scale for measuring consumer perc. *Journal of Retailing*, 64(1), 12. Retrieved from <http://lib.cpce-polyu.edu.hk/docview/228609374?accountid=37289>
- Peppers, D., & Rogers, M. (2016). *Managing customer experience and relationships : A strategic framework*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Perdue, R. R., Immermans, H. J. P., & Uysal, M. (2004). *Consumer psychology of tourism, hospitality and leisure* (Vol. 3). CABI.

- Prebensen, N. K., Chen, J. S., & Uysal, M. S. (Eds.). (2017). *Co - creation in tourist experiences*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Scott, J. (2008). Children as respondents: The challenge for quantitative methods. *Research with children* (pp. 103-124). Routledge.
- Scott, N., Laws, E., & Boksberger, P. (2010). *Marketing tourism experiences*. Retrieved from <https://ebookcentral-proquest-com.libproxy.cpce-polyu.edu.hk>
- Swarbrooke, J. (2002). *The development and management of visitor attractions* (2nd edition). Oxford: Butterworth Heinemann.
- Themed Entertainment Association. (2009). *2008 Attraction Attendance Report* [PDF file] Retrieved from [http://www.teaconnect.org/images/files/TEA\\_23\\_503031\\_140617.pdf](http://www.teaconnect.org/images/files/TEA_23_503031_140617.pdf)
- Themed Entertainment Association. (2019). *Theme Index and Museum Index 2018* [PDF file]. Retrieved from <https://www.aecom.com/wpcontent/uploads/2019/05/Theme-Index-2018-4.pdf>
- Wu, H. C., Li, M. Y., & Li, T. (2018). A study of experiential quality, experiential value, experiential satisfaction, theme park image, and revisit intention. *Journal of Hospitality & Tourism Research*, 42(1), 26-73.
- Younger, D., Rohde, J., & Baxter, T. (2016). *Theme park design & the art of themed entertainment*. Inklingwood Press

# **The development of Hong Kong based health conference: A case study of PolyU CPCE health conference**

*Kai Yin Fred Wong & Chun Man Bruce Tsui*

## **Abstract**

The Hong Kong Polytechnic University (PolyU) - College of Professional and Continuing Education (CPCE) health conference 2020 is the fifth annual international conference organized by PolyU CPCE since 2016. The number of attendances is in a continuous growth with at least 5 years' experience. Yet, it remains some internal issues and unknown focus on the development, with uncertain environment of this conference as a rapid progression sector. This study analyzed the development direction of the PolyU CPCE Health Conference. Recommendations were provided to illustrate a more sustainable development for this conference.

**Keywords:** PolyU CPCE Health Conference 2020, Hong Kong Based Health Conference, Academic Conference, Conference Development, Hong Kong

## **1. Introduction**

In 21<sup>st</sup> century, the ageing population is becoming a serious problem to the world that affect the international society such as decreasing workforce of labour market, The United Nations (2019) announced that by 2050, one in six people in the world will be over age 65 (16%). Looking at Hong Kong, Hong Kong exist the population ageing problem. According to Hong Kong Census and Statistics Department statistics (2017) the population of elder, aged 65 and above, will rise from 44.3 in 2016 to 50.9 in 2036, and further to 54.5 in 2066. Therefore, for giving the advice or sharing the experience on Hong Kong population ageing problem, the CPCE started the research about this population ageing problem and keep organizing Health Conference as their annual event.

As it is difficult for an academic organization to organize a conference without experience. When organizing a conference, Rogers (2008) point out that the conference organizer must experience that the stages about setting the target audiences, creating the objectives for the conference, designing conference topic and programs. So, the committee experienced all the above stage of organizing a conference. Then, this health conference is just lacking in the development direction.

Therefore, The objective of this study has threefold: (1) to analyze the possible development direction of PolyU CPCE health conference; (2) to identify the roles of stakeholder of Hong Kong based health conference in Hong Kong; (3) to compare with other Health Conference to discover the scarcities of PolyU CPCE health conference. Based on the major objective, analyzing the possible development direction of PolyU CPCE health conference in the future, it needs to identify the conference stakeholders how can they benefit and help to develop to the health conference, and then through the comparing to learn the advantages from other Health Conference and use in the future development of health conference.

## 2. Literature Review

### 2.1 Conference and Convention

Conferences are prime sources of information and knowledge for development process (Smith, 2007). Conferences or conventions are a part of the component in the MICE industry. The terms of conference relate to meetings, conventions, congress, and forum. A conference is an assembly of people for them to exchange and share their beliefs, ideas, and opinions which is annually and sometimes accompanied by an exhibition for exhibiting products and services (Miskell, 2013; Weber & Chon, 2002). Also, the Events Industry Council (2020) stated that a conference aims to gather agents, delegates, and individuals from a participation or industry association met for a typical reason. Additionally, common highlights incorporate instructive meetings, advisory group gatherings, social functions, and meetings to direct the administration business of the association.

### 2.2 Academic conferences

In general, academic conferences are equivalent to business conferences (Momm & Jöns, 2018). As the main point of all business conferences are spreading important knowledge through meetings and conference. Henn and Bathelt (2015) pointed out that the essential conference focuses through which significant intelligence about the present and future changes in the individual practical field are circled, talked about the fundamental knowing networks. Besides, a typical academic conference also through informal and formal format to transfer the information and knowledge in generally. Nicolson (2017) also stated that academic conference does not only continue by the formal events. For example, keynote lectures, conference sessions, and meetings of research groups. However, academic conference will also through informal conversation and discussion over at diverse social gatherings.

### 2.3 A place for exchanging intelligence

Momm and Jöns (2018) declared that the conference is a place for exchanging intelligence. Conference are a meeting spots for speakers and attendances for intelligence and knowledge exchange that are traditionally grounded in specific geographical places. They are applied theory from Rogers (2008) “Conference and convention venue just focus on one single building, also it has extended across multiple sites and buildings.” Also, it is common that for the universities, college, organization, and government department to use a conference meeting as the opportunity and process to learn in most of time (Bathelt et al., 2004).

### 2.4 Creating objectives and making clear of the target audience for the conference development stages

For the first stage of organizing a conference, the conference organizer should identify that “Who is your group?”, “Why are they here?”, “What is the objectives of this meeting?” (Professional



Convention Management Association, 2005; Waechter, 2018). Also, identifying the target audience is based on the organization's goal. The event or conference should be based on this and should meet the needs and wants of the targeted audience (Waechter, 2018). As a result, there is a strong relationship between creating objectives and understanding the target audience.

## 2.5 Roles of different stakeholder in conference

There are many stakeholders including in the conference who are significant to the conference. For example, the government, association, professional conference organizer (PCO), a range of service providers. For the PCO, Jensen and Meckling (1976) defined that the relationship between a conference host and PCO in which the host employs the PCO to perform services. PCO works for conference host under a contract (Lee et al., 2009). Beside of PCO, the government could be a supporter of a conference. HKSAR is supportive to encourage the staging of meetings in Hong Kong by offering several added-value funding and the MICE venue (Bauer et al., 2001). Despite there is the research about the roles of government and PCO, it has not yet been clarified other stakeholder in the conference industry, so it still needs other literature to examine the other roles of stakeholders.

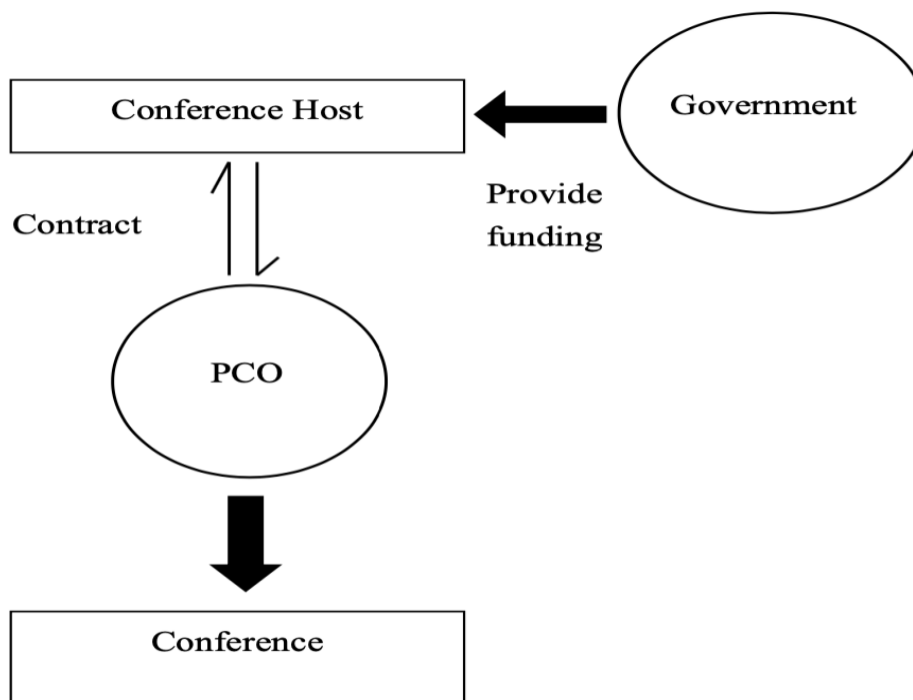


Fig. 1 The framework of different stakeholder in conference from Lee et al. (2009) & Bauer et al. (2001)

### 3. Methodology

#### 3.1 Qualitative Methods

Qualitative approach is adopted to provide insights into the problem or helps to develop ideas or hypotheses for this research. Firstly, qualitative methodology through an in-depth interview for the data collection. Then, exploring the deeper and main ideas or hypotheses for the research problem by an in-depth individual interview.

##### 3.1.1 In-depth interview

An in-depth interview is a common method in a qualitative method in generally that a conversation between interviewer and interviewee for collecting the information. To reach the above research objectives, a semi-structured interview was conducted. The semi-structured interview the interviewer would use several predetermined questions to let the interviewee answer the questions in their own words (Easwaramoorthy & Zarinpoush, 2006). Therefore, this research conducted an interview and set a range of questions to interview the conference committee chairperson, Dr. Ben Fong, to get more in-depth information about this conference.

The in-depth interview with the semi-structured interview that took place through the online conference on 17 April, 2020. The interviewee was Dr. Ben Fong and the scope of the interview was surrounding with the issue of the conference such as the development process and some kind of scarcity would like to improve around PolyU CPCE health conference.

##### 3.1.2 Case Study

It is important to study the cases to know about the development process of health conference or convention from others so that investigates a phenomenon within its real-life context (Yin, 2008). It is suggested that to study the explanatory type of case study. Therefore, this study seeks to determine what about a health conference from others and how they develop.

In this study, the object of this case study would be APRU Global Health Conference 2019 which was organized in The University of Hong Kong, Pokfulam, Hong Kong. The main purpose is aiming to use the global health education and research capability of Asia-Pacific universities to address the worldwide medical problem (APRU Global Health Conference, 2019).

#### 3.2 Data Analysis Method

Since most of the qualitative data are just words, then it needs to transcribe data. To achieve those objectives, we consider the following method to analyze the collected data.

For the second and third objective, this study used the content analysis method to compare with other Health Conference from other places (2) discover the scarcities of PolyU CPCE health conference. Also, to examine that (3) To compare with other Health Conference to discover the scarcities of PolyU CPCE health conference.

## 4. Findings

The in-depth interview was conducted online in April 2020 and lasted around 45 minutes. The demographic of the participant is the conference organizer (Table 1). As mentioned in the data analysis method, it needs to transcribe the wordings in the in-depth interview to a transcript.

Participant	Position	Gender	Interview Type
Dr Ben Fong	Conference Organizer	Male	Online Conference

Table 1 Participant demographic details and interview type

Besides the in-in-depth interview, it mentioned conducting a case study of the health conference from other organization or association that investigating a phenomenon in the real-life. A record of similar nature health conference and also held in Hong Kong which is the APRU Global Health Conference 2019.

Case	Venue	Time	Nature of Conference
APRU Global Health Conference 2019	The University of Hong Kong	17-20 November, 2019	Health Conference

Table 2 The details of case study sample details

### 4.1 The structure of organizing committee and conference

Based on the interviewee wordings he identified that the health conference committee run as a simple organizing team that included some advisors from PolyU CPCE and a scientific committee to help for vetting the submission papers submitted for presentation, "...I am the chairman of the organizing committee, most of the members come from the health studies and they are teachers, a colleague from others discipline, and the administrative colleague in the committee. We also have the scientific committee which helps to consider and read the submission papers submitted for presentation." *Conference organizer, Dr Ben Fong*. Therefore, it showed that the health conference is trying to use a simple organizing team to organize and abandon the professional conference organizer to involve in their conference.

For the structure of the conference, the interviewee has identified their conference held as a one-day event with the plenary sessions in the morning and the break-out session in the afternoon for speakers present their research. Also, the scale of attendance from around 150 people develop to around 300 people; "...to have 1-day event which better than half-day event since it is too tight for that...Also, the number of participants is increasing particularly in the last couple of years, there are almost around 300. When we first started, remember it has 150 people. It has been more popular. And we also have the specific session which in terms of the structure of the event. In the break-out session, we have a specific session for students and presenter from the Mainland." *Conference organizer, Dr Ben Fong*.

#### 4.2 The scarcities of the PolyU CPCE health conference

Interviewee identified that the number of attendances is too small for this health conference. Even the health conference committee be able to enhance the number of attendances to this health conference. For example, sending the email to invite both HKCC and SPEED students to attend. However, it is not successful for this method that might be the major scarcity of the conference which the interviewee would like to improve: “I would like to improve the number of audiences since we put so much effort, we like more people who can benefit or attend the conference and this is an area we would like to make further improvement...” *Conference organizer, Dr Ben Fong.*

The second scarcity is not diverse enough. As this health conference develop as a one-day event with some kind of plenary sessions, keynote presentations, and break out sessions. All those are so common for a typical conference and no features for attracting people to come. Comparing with the case study sample, the APRU Global Health Conference 2019 would be more plentiful on the program. The program would include some workshop, keynote presentation, academic career mentoring session, a local field trip (APRU Global Health Conference, 2019). Therefore, the program of PolyU CPCE health conference is simpler under the comparison.

#### 4.3 The roles of some stakeholders in the PolyU CPCE health conference

Interviewee identified how the sponsors contribute to the conference. There are two different types of sponsor once is government and other once would be the non-government organization (NGO) that the government provide the grant for supporting the research on a particular health issue and the operation of the conference committee and for the NGO, providing some funding for supplement the expense of this health conference and set up the scholarships for student presentations. “Well sponsor contribute more funding and we have made use of the funding to set up scholarships for student presentations in one particular year. We also use funding to supplement our expenses for the conference. Of course, with the last two we got funding from through the government grants, so we did not rely on sponsorship to organize the conference.” *Conference organizer, Dr Ben Fong.* Therefore, it can realize that all those sponsors will mainly provide financial support for organizing the conference, they are the grant and funding. Also, the roles of the supplier are providing some service to the conference such as the artwork of promotion.

### 5. Framework

Based on the empirical evidence identified from section 2.5, it is focusing that the relationship between different stakeholders who involved in the conference. In general, they are maintaining the direct and indirect relationship to the conference to help the development of the conference. Nevertheless, the above literature and some other evidence cannot represent the current situation of the PolyU CPCE health conference that a developing Hong Kong-based health conference. Therefore, there is another conceptual framework are pointed out. Specifically, this study based on Lee et al. (2009) and Bauer et al. (2001) the roles of different stakeholder in a conference to develop this own conceptual framework to Health Conference. It demonstrates a conceptual framework of the relationship of different stakeholder in health conference and how they affect the. Development. One of the stakeholders would be the government that will have the relationship

between the government and the conference committee.

Hypothesis 1 (H1): The methods of support format to the health conference in nowadays.

And then, the other stakeholder would be the sponsors and collaborators.

Hypothesis 2 (H2): There are significant relationship in the sponsors and collaborators characteristics based on their mutual assistance characteristics.

The last one would be the suppliers that will have a relationship with the health conference.

Hypothesis 3 (H3): A range of services to provide to the conference.

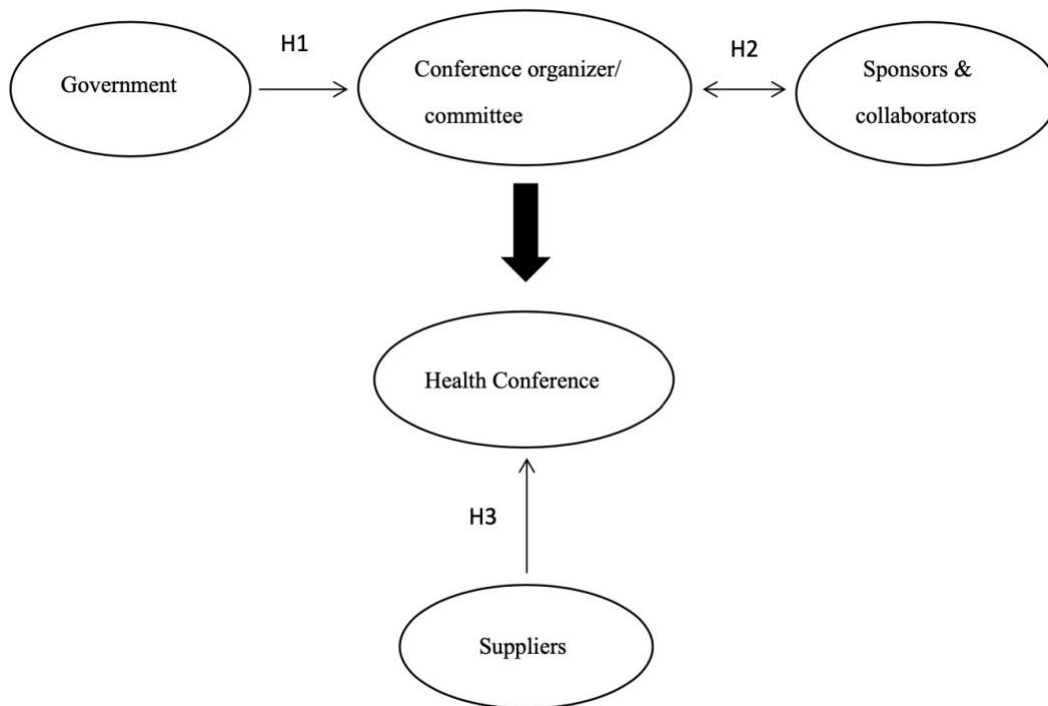


Fig 2: The conceptual framework of this study

Adapted from Lee et al. (2009) and Bauer et al. (2001) for this research

## 6. Discussions and Conclusion

By designing the conceptual framework that included the basic framework from Lee et al. (2009) and Bauer et al. (2001) of the different relationship with all stakeholder within the health conference, and then combine the analyze in the finding, it will examine that how the relationship between all stakeholder in health conference to affect that the development of health conference.

This study examines the possible future development plan of a health conference based in Hong Kong. Although the conference industry is well-developed on the theory, organizing process, and program design, there is a huge space for improvement in the Hong Kong-based health conference. Therefore, this study will discuss the potential development of the PolyU CPCE health conference.

## 6.1 To increase the number of attendances

The number of attendances is a basic requirement and to decide successful in organizing a conference most of the time. The health conference organizer should put a lot of effort into thinking about how to reach and attract more attendees to attend the health conference. Based on the situation of this health conference, the conference organizer, Dr Ben Fong, pointed out that the low number of attendances even they put a great effort into finding the attendance. There are some measures to improve the low attendance in PolyU CPCE health conference as below.

### 6.1.1 To invite other college student and staff

As an academic institution for organizing a health conference, it should develop more to the aspect of an academic institution. In order to boost the number of attendances, the health conference organizer can send the invitation to the other college that running the health-related programs. Since Dr Ben Fong mentioned in the interview, the IVE in Kwai Chung would like to send out their student to attend the health conference. Therefore, it is possible that inviting the student and staff from another college.

### 6.1.2 Increase the motivation

As the conference committee sent an internal email to invite the CPCE students to come and attend the health conference every year. However, the result is not good for the invitation. The ratio of the student is too small. In fact, the main problem is low motivation and incentive to let the student attend. They just think about the PolyU CPCE health conference cannot benefit to them. There were a few students and not exceed more than 20 students in that on-site by observation. Therefore, it is suggesting that to increase the motivation of CPCE students even who is not a health-related program student. In order to increase the motivation, it needs to base on their preference and create the benefit for them. Suggesting for giving the bonus marks around 10% - 20% on the assignment to the students who attend the conference. It might boost the incentive for the student to attend the conference. Besides, it can make a reference to the APRU Global Health Conference 2019. It had a session especially for students that are a mentoring session to benefit to the student future career because mentor will provide some advice for how to prepare and position in the academic field. Thus, the health conference committee can consider that making a program, especially for the student. For example, making a breakfast group academic career mentoring session in the morning. Finding to experience mentors or some speakers in the health-related industry to share their personal experience and career journeys and then offer useful skill to students. So, it might boost more to motivation.

## 6.2 Change from 1-day to 2-day event

As it found out that the programs of the PolyU CPCE health conference are not diverse enough. The main reason for that is held as a 1-day event only. It is suggested that trying to organize as a 2-day event, and more programs can be organized and incorporated into the conference. For instance, on the first day morning, holding a welcoming coffee session and then it should be the keynote presentation, plenary session. Next, for the first day afternoon, suggesting holding the poster session concurrently with the breakout session. And then, the second day morning, breakfast

academic career mentoring session and continue on the plenary session. Moreover, it can hold some workshop on the second day afternoon.

In conclusion, CPCE developed some health studies in recent year and there was the motivation for CPCE to organize a conference for the researchers in health-related studies to share views and researches since 2015. However, it is difficult for an academic organization and without any experience to organize a conference in the beginning. Thus, it needs research to examine possible future development. Moreover, using the research method of interview and a case study find out that the structure of the conference and the conference committee, some kind of sacristy in the PolyU CPCE health conference, and the more important thing is the roles and relationship of stakeholder involved in the health conference, the roles and relationship basic framework from Lee et al. (2009) and Bauer et al. (2001) that combine with the finding is the conceptual framework of this study that affect the development of health conference. And for the most important thing, this study examines that the possible future development plan of a health conference based in Hong Kong developing in improving the number of attendances, the programs, and improve the motivations of attending the conference.

**Acknowledgement:** The author thanks Dr Ben Fong for participation in the interview.

## References

- APRU Global Health Conference. (2019). *An overview of APRU*. Retrieved from <https://www.aprughc2019.org/overview>
- APRU Global Health Conference. (2019). *Programme at a Glance (Tentative)*. Retrieved from <https://www.aprughc2019.org/programme-at-a-glance>
- Bathelt, H., Malmberg, A., & Maskell, P. (2004). Clusters and knowledge: local buzz, global pipelines and the process of knowledge creation. *Progress in Human Geography*, 28(1), 31–56.
- Bauer, G. T., Lambert, J., Hutchison J. (2001) *Government Intervention in the Australasian Meetings, Incentives, Conventions and Exhibitions Industry (MICE)*. *Journal of Convention & Exhibition*, Vol. 3(1), 65 – 87.
- Census and Statistics Department. (2017). *Hong Kong Population Projections 2017 - 2066*. Hong Kong: Census and Statistics Department.
- Easwaramoorthy, M., Zarinpoush, F., (2006). *Interviewing For Research*. Retrieved from

[http://sectorsource.ca/sites/default/files/resources/files/tipsheet6\\_interviewing\\_for\\_research\\_en\\_0.pdf](http://sectorsource.ca/sites/default/files/resources/files/tipsheet6_interviewing_for_research_en_0.pdf)

Events Industry Council. (2020). *Convention Insight*. Retrieved from

<https://insights.eventscouncil.org/Full-Article/convention>

Henn, S., Bathelt, H. (2015). Knowledge generation and field reproduction in temporary clusters and the role of business conferences. *Geoforum*, Vol. 58, 104 - 113

Jensen, M. C., Meckling, W. H., (1976). *Theory of the firm: managerial behavior, agency costs, & ownership structure*. *Journal of Financial Economics* 3, 305–360.

Lee, H. R., McKercher, B., Kim, S. S., (2009) *The relationship between convention hosts and professional conference organizers*. *International Journal of Hospitality Management*, 556–562.

Miskell, L. (2013). *Meeting Places: Scientific Congresses and Urban Identity in Victorian Britain*. New York: Routledge

Momm, C. F., Jöns, H. (2018). Decentralized concentration through cyclical events: The geographies of academic conferences in urban and regional development and planning in Brazil, 2004–2013. *Geoforum*

Nicolson, D. J. (2017). *Academic Conferences as Neoliberal Commodities*. Cham: Palgrave macmillan.

Professional Convention Management Association. (2005). *Professional Meeting Management: A Guide to Meetings, Convention, and Events (6<sup>th</sup> edition)*. Chicago, Illinois: B2 Book, and Agate Imprint. Chapter 2

Rogers, T. (2008). Conference management - an organizer's perspective. *Conferences and Conventions*. Oxford: Butterworth-Heinemann



- Smith, H. L. (2007). Universities, Innovation, and Territorial Development: A Review of the Evidence. *Environment and Planning C: Government and Policy*, 25(1), 98–114.
- United Nations. (2019). *World Population Prospects 2019: Median age by region, subregion and country, 1950-2100 (years)*. United Nations: Population Division.
- Waechter, F. M. (2018, December 10). The Key Factors For Planning a conference Successfully. [Web blog post]. Retrieved from <https://congrex.com/blog/planning-conference-successfully/>
- Weber, K., Chon, K. (2002). Convention tourism: international research and industry perspectives. New York–London–Oxford: THHP - The Haworth Hospitality Press
- Yin, R. K. (2008). *Case Study Research Design and Methods: Applied Social Research and Methods Series*. Thousand Oaks, CA: Sage Publications Inc.

# **The trend of Augmented Reality (AR) and Radio Frequency Identification (RFID) in theme Park**

*Chui Ying Lau & Tavitiyaman Pimtong*

## **Abstract**

Concerning the keen competitions and the declining performances of the Hong Kong Disneyland (HKDL), this study used the combination of the Technology Acceptance Model, subjective norm (SN), and enjoyment for the analysis of the possibility of implementing augmented reality and radio frequency identification in the HKDL. The results showed that Hong Kong visitors have a positive perception of ease of use, usefulness, SN, and enjoyment on visit intention to the HKDL. The managerial implications will be further discussed.

**Keywords:** Technology Acceptance Model (TAM); Augmented reality (AR); Radio frequency identification (RFID); Gender; Visit intention

## **Introduction**

Theme parks worldwide have adopted technology in services and attractions to gain more business opportunities and performance growth (ELE Times, 2020). For instance, radio frequency identification (RFID) technology is introduced in Disney Florida, Magic Band and the mixed reality viewer systems is at Universal Orlando Resort (Bilbao, 2017; Marr, n.d.). Among the Asia market, China has started the constructions of the gamer theme park with the integration of innovative technology (Rapoza, 2019). The Hong Kong Disneyland (HKDL) has also imposed relative measures like the ‘Iron Man Experience’, a 3-D motion simulator to attract more visits (Legislative Council of Hong Kong, 2018). Yet, it is challenging to withstand its position under the competitive market.

In 2019, the HKDL has recorded the fourth consecutive year loss and the anti-government protests resulted in the loss in number of visitors which the HKDL was predicted to have a drop of income in 2020 (Tsang, 2019a, 2019b). Considering the challenging conditions, the HKDL should adopt new product development by market trends and needs for destination marketing (Morrison, 2013). The integration of advanced technology and theme park design is suggested for enhancing visitors’ experiences and engagements (Milman et al., 2012). Emerging trends like augmented reality (AR) are regarded as vital roles for improving customer experience (Revfine, n.d.). Stated by Elliott (2020), AR is perceived as a tool for better experiences and effective trip planning. RFID is also beneficial for convenience and accessibilities (Chu, 2018). Qu (2017) claims that excellent theme park experiences would positively impact visitors’ intentions and satisfaction. Thus, the perceived experience through technology under the acceptance model can be utilized in analyzing the visit intention to theme park. Simultaneously, demographic factors are determinants of adopting technological innovations (Quazi & Talukder, 2011). Goswami and Dutta (2015) revealed that gender is a factor influencing the intention to use technology in which males and females hold different perceptions on it. The relationship between technology acceptance and demographic factors will be further analyzed.

The objectives of this study are of threefold: (1) to examine the development of AR and RFID

applications in the HKDL from the perspective of HK visitors, (2) to explore the acceptance of HK visitors to technology advancement in the HKDL by gender, and (3) to investigate the relationship between the acceptance of technology advancement and visit intention. This study aims at analyzing whether the adoption of advanced technology applies to the HKDL and suggesting the viable areas of technology acceptance for product modifications and experience enhancement. Hence, reducing financial loss and improving competitiveness.

## **Literature Review**

### *The Technology Acceptance Model (TAM)*

The TAM was proposed to examine the perceived ease of use (PEOU) and perceived usefulness (PU) of technology to further examine the acceptance and intention of using it (Davis, 1989). TAM3 has suggested to further interpret the subjective norm (SN) and enjoyment factors as influential determinants of technology adoption experiences among PEOU and PU (Venkatesh & Bala, 2008). Yet, the analysis is not directly related to the relationship between technology adoption and experiences. SN and enjoyment factors will be included for further analysis. Therefore, this study will refer to four attributes: PEOU, PU, SN, and enjoyment.

PEOU and PU refers to the easiness of using a particular system and an enhancement tool by that particular system respectively (Davis, 1989). The PEOU and PU positively influence customers' acceptance and intention to use technology due to the convenience of RFID technology in retail (Roy et al., 2018). Hence, stimulate the destination visit intentions when using AR (Chung et al., 2015). Yet, the psychological needs and relatedness of the targeted parties would influence the significance of the result. Specified by Huang et al. (2016), the PU positively associated with the behavioral intentions in using advanced technology while the PEOU does not.

SN refers to the perceived social pressures on the decision to perform the behavior or not (Ajzen, 1991). It also refers to the social influence that people who are important to the individuals would influence behavioral intentions (Cheung & Lee, 2010). According to Kim (2016), family and friends are influential to the usage of apps which enables word-of-mouth advertising and effective promotions. Enjoyment refers to the perceived enjoyability in using particular systems, apart from any performance consequences when using the system (Venkatesh, 2000). Enjoyment contributes positively to technology applications which maximize the willingness to technology adoption (Alalwan et al., 2018; Baabdullah, 2018).

### *Technology applications in tourism*

AR is considered to be useful in enhancing tourists' experience and inductive in optimizing re-visitation to destinations (Chung et al., 2015; Wei et al., 2019). Referring to Hassan and Shabani (2017), the usability of AR has been widely developed within tourism destinations. While in decision-making, AR assists the fitting and purchasing behaviors which augmented the shopping experiences. The interactivity and personalization through AR improve the overall satisfaction and attractiveness to the theme park in Korea (Jung et al., 2015).

The development of smart tourism included the use of RFID in data management has augmented the experience of visitors (Vasavada & Padhiyar, 2016). RFID allows theme park to have effective management in queue data and locational information, which is considered to be a potent tool for

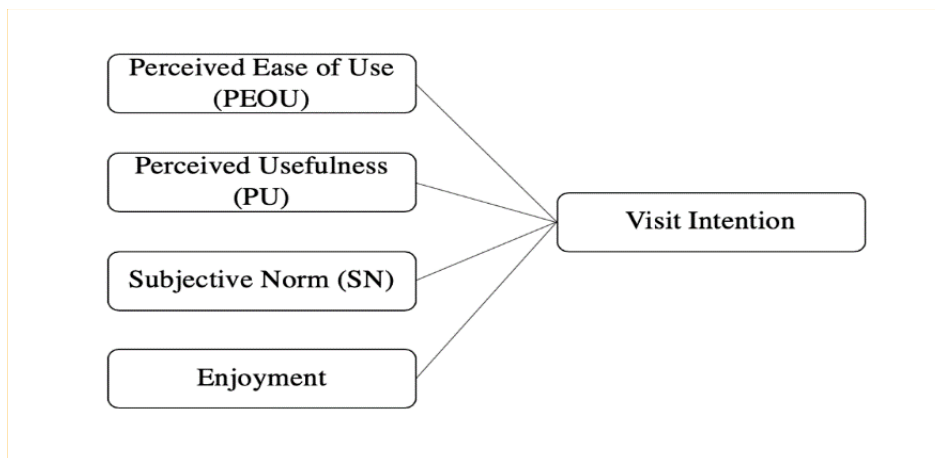
promoting brand images and enables more customer engagements (Guo et al., 2016). Route recommendation system with RFID in theme park creates quality services according to visitors' preferences (Tsai & Chung, 2012).

#### *TAMs and gender*

Gender plays a significant role in examining the acceptance of new technology as there would be alternative perceptions of different technology applications (Goswami & Dutta, 2015). Males hold positive attitudes to the use of technology while females are less motivated (Cai et al., 2017; Kim, 2016). In the fields of mobile services, females perceive more on hedonic enjoyment while males are attracted by the utilitarian values – PU (Yang & Lee, 2010). According to Ozturk and Hancer (2015), males also perceived more convenience than females, which PEOU was essential among the use of RFID. And among the SN, studies about the adoption of information technology illustrated that social influences have stronger impacts on female rather than male (Dulle & Minishi-Majanja, 2011; Lwoga & Lwoga, 2017; Joe et al., 2020).

#### *TAMs and visit intention*

According to Fishbein and Ajzen (1975), behavioural intention refers to a person's intuitive probability that he will perform the behaviour. While analysing the behaviour in visiting, it represents the determination to visit the destinations. The key for visiting and revisiting the theme park is relating to the service quality and experience which are capable of maximizing the customers' satisfaction and fostering visit intention (Başarangil, 2018). Physical components in technology like functionality can attain better service quality which contributes to experience enhancement. Consequently, Li and Chen (2019) have stated the PEOU and PU of advanced technology positively impact the travel intention. Thus, the attractiveness of advanced technology contributes to the perceived enjoyment which stimulates the intention to visit. Referring to Kaushik et al. (2015), behavioral intentions to adopt the advanced technology are significantly influenced by recommendations, which SN is a potent stimulus. The conceptual model is explained in Figure 1.



**Figure 1:** Proposed framework for the suggested TAM model to visit intention

## **Methodology**

### *Research design and sampling approach*

This is an exploratory research by studying the data collected from the targeted population. This study used the self-administrated survey to collect quantitative data for identifying the relationships between the examined factors and suitability for the condition of the HKDL. For the sampling, snowball sampling was used, and HK visitors were chosen.

### *Research instrument*

The questionnaire includes three sections. Section I consisted with two multiple-choice questions for further understandings of the possible AR and RFID functions that could be implemented in the HKDL. Section II had three questions. The first and second question provided the respondents with fourteen descriptions to explore their perception and experiences when using the advanced technology, adapted from Huang et al. (2013) and Jung et al. (2018). While the third question focused on the willingness and intention to visit and re-visit to the HKDL upon the future implementation of the AR and RFID. These items are suggested by Chung et al. (2015). All items in section II were asked by using the 5-point Likert scale ranging from 1- Strongly Disagree to 5-strongly Agree. Lastly, section III comprises of five close-ended demographic questions relating to the age, gender, education level, income, and occupation.

### *Data collection procedure and data analysis*

The surveys were spread through the social media platforms (e.g. Instagram), considered the effectiveness of digital media under the high accessibilities to the targeted group (Efthymiou & Antoniou, 2012). All the surveys were created and collected through Google Forms and the data collection period was about fourteen days. There were ninety samples with 100 percent response rate. Descriptive statistics, t-test, and multiple regression were applied for examining the research objectives.

## **Results**

### *Demographic characteristics of respondents*

Table 1 describes the demographic characteristics of respondents. Gender representation among the 90 respondents was 54.40 percent (n = 49) female and 45.60 percent (n = 41) male respondents. Regarding the age, more than a half of respondents were of the age between 19 and 28 (55.60%) and 6.70% were of 18 or below. For education, 72 (80.00%) respondents were equipped with bachelor's degrees. More than half of the respondents were with income level about HKD15000 or below (57.80%), and 24.40% had an income of HKD25001 or above.

**Table 1:** Demographic characteristics of respondents

Characteristics	Frequency	Percentage (%)
Gender:		
Female	49	54.40
Male	41	45.60
Age:		
18 or above	6	6.70
19-28	50	55.60
29-38	23	25.60

39-48	9	10.00
48 or above	2	2.20
Education:		
Secondary Education or below	6	6.70
Higher Diploma/ Associate Degree	6	6.70
Bachelor's degree	72	80.00
Master's degree or above	6	6.70
Income:		
HKD15000 or below	52	57.80
HKD15001 - 25000	16	17.80
HKD25001 or above	22	24.40

#### *Development of AR and RFID functions*

Table 2 presents the possible development of AR and RFID functions in the HKDL from the perspective of HK visitors. Regarding the use of AR, the most preferred functions from HK visitors' perspectives were AR rides (14.79%). The second most preferred was the virtual map function (13.77%). And for the in-app AR function and AR displaying machine, both were equally desirable (10.20%). When in RFID applications, the most preferred function was the virtual queue (16.83%). The second most preferred was the queue status checking function (16.07%). The third preferred function was product tracking function (9.94%), and the least preferred one was virtual money (8.16%).

**Table 2:** Perceived AR/RFID functions from HK visitors' perspective

Item	Ranking	Frequency	Percentage (%)
Perceived <b>AR</b> functions for future implementation:			
In-app AR function (e.g. customization on products)	3	40	10.20
AR displaying machine (e.g. try on clothes)	3	40	10.20
Virtual map	2	54	13.77
AR rides	1	58	14.79
Perceived <b>RFID</b> functions for future implementation:			
Product tracking function	3	39	9.94
Queue status tracking function	2	63	16.07
Virtual queue	1	66	16.83
Virtual money	4	32	8.16
<b>Total</b>		<b>392</b>	<b>100</b>

#### *Perception of TAMs by gender*

The mean differences of HK visitors' perception between advanced technology acceptance by gender are presented in Table 3. There was a mean difference in HK visitors' perceptions of PEOU ( $t$ -value = 4.75,  $p < 0.01$ ). Male visitors (mean = 4.40) perceived more positive than female visitors (mean = 3.95). Regarding the PU, the mean difference was of  $t$ -value 2.58 ( $p < 0.05$ ). Male visitors (mean = 4.31) perceived more positively than female visitors (mean = 4.07) on PU. While for the SN, the mean difference was of  $t$ -value 2.14 ( $p < 0.05$ ). Male visitors (mean = 4.08) perceived more positive than female visitors (mean = 3.82). Contrary, there was no mean difference in enjoyment by gender.

**Table 3:** Comparison of means for AR and RFID technology acceptance by gender

Attributes	Female (n = 49)		Male (n = 41)		t-value	p value	Comparison
	Mean	SD	Mean	SD			
Perceived usefulness (PU)	4.07	.45	4.31	.44	2.58	.01*	Male > Female
Perceived ease of use (PEOU)	3.95	.44	4.40	.45	4.75	.00**	Male > Female
Enjoyment	4.12	.54	4.18	.56	.49	.62	
Subjective norm (SN)	3.82	.55	4.08	.59	2.14	.03*	Male > Female

\* $p < 0.05$ , \*\* $p < 0.01$

#### *Technology acceptance on HK visitors' visit intention*

Table 4 explains the multiple regression results of acceptance of technology advancement on visit intention. 14 items of four key attributes of technology acceptance indicated the regression values on visitation ( $R^2 = 0.44$ , adjusted  $R^2 = 0.33$ ,  $F$ -value = 4.21,  $p < 0.01$ ). The item of PU on 'spending time wisely' was positively significant on HK visitors' visit intention (unstandardized  $\beta = 0.30$ ,  $p < 0.01$ ). Besides, the item of PEOU on 'convenience' influenced the visit intention positively (unstandardized  $\beta = 0.26$ ,  $p < 0.01$ ). Other attributes relating to PU, PEOU, SN, and enjoyment had no impacts on visit intention ( $p > 0.05$ ).

**Table 4:** AR and RFID technology acceptance affecting HK visitors' visit intention

Variable	Unstandardized coefficients		t-value	p value
	B	Standard error		
(Constant)	1.62	.58	2.80	.00
<b>Perceived usefulness (PU)</b>				
Helpful	.01	.10	.19	.85
Experience enhancement	.00	.08	.05	.95
Useful	.07	.11	.67	.50
Spend time wisely	.30	.09	3.39	.00*
<b>Perceived ease of use (PEOU)</b>				
Easy to use	.04	.11	.39	.69
Do not require staff assistances when using AR and RFID	.05	.10	.46	.64
Convenient	.26	.09	2.73	.00*
User-friendly	.08	.11	.78	.43
<b>Enjoyment</b>				
Enjoyable	.09	.09	.96	.33
Novel	.01	.07	.20	.83
Interesting and exciting	.04	.10	.46	.64
<b>Subjective norm (SN)</b>				
Seek advices from important people	.09	.08	1.12	.26
Refer to others' opinions and experiences	.14	.08	1.71	.09
Read news and statistics	.11	.06	1.67	.09

\*  $p < 0.01$ , Adjusted  $R^2 = .33$ ,  $F = 4.21$ , significance  $F = .00$

## Discussion and conclusion

Technological innovations are effective ways of eliminating the market competitions (Hall & Williams, 2019). Buonincontri and Micera (2016) stated that technology encourages engagement which positively contributed to tourism and destination experiences. In view of improving the competitiveness of the HKDL, this study has investigated different possible functions that would be applicable among the HKDL using AR and RFID. The most preferred AR rides reflected the visitors' expectations on physical features and virtual queuing with RFID showed the concerns on alleviation of the crowding issues, which are corresponding to prior researches from Ali et al. (2018) and Guo et al. (2016) respectively. Although other options were less preferred by the respondents, the variety of AR and RFID functions were potential for further development and beneficial for the tourism industry, stated by Hozak (2012) and Nayyar et al. (2018).

This study also concentrated on the technology acceptance of AR and RFID by extending the TAM with SN and enjoyment. The results of the acceptance behaviours among HK visitors by gender indicated the positive relationships between males, PEOU and PU, which were compatible with previous study specified that males held positive attitudes on technology adoption (Ozturk & Hancer, 2015; Yang & Lee, 2010). The results illustrated that male visitors could be the target segment for the HKDL by offering more technological applications with additional functionality and convenience. While considering the SN on technology acceptance, the findings against with prior studies which demonstrated social influences were more influential among females (Dulle & Minishi-Majanja, 2011; Lwoga & Lwoga, 2017; Joe et al., 2020). Mentioned by Delaney et al. (2015), age and gender could possibly affect the decision-making processes in which younger males were categorized into more affective segments. Younger males were considered to apply less cognition and experiences in decision-making, which is applicable for explaining the contrast with the prior studies mentioned.

Furthermore, the positive relationships between technology acceptance and visit intentions were illustrated by PEOU and PU. These findings indicated the HK visitors focus more on convenience and functionality on theme park experiences for future- or re-visitation to the HKDL, which confirms the previous findings that experiences were affective for behavioral intentions to visit (Başarangil, 2018). These results also consistent with the research specified that the utilization of advanced technology would impact the intentions towards tourism activities (Li & Chen, 2019). Hence, showing that the above attributes are possible for amplifying visiting experiences. Analyzing further, this study also presented the HK visitors focused more on convenience and time-saving features among the PEOU and PU respectively (see Table 3). Parise et al. (2016) stated that AR were equipped with time and utility efficiency, which were capable of delivering qualified users' experiences. RFID was also potential for maximizing the utility and efficiency within the tourism industry (Hassannia, 2014). The functionalities of AR and RFID are perceived to be acceptable among the HK visitors, thus, conducive for the predictions of future visit intentions.

### *Managerial implications*

The HKDL can benefit from the findings of this study as it contributes to the possible applications that can be applied. Upon the highly preferred functions of AR and RFID relating to the entertainment and queue management, virtual map on mobile AR (Ocampo & Palaoag, 2019) for navigation and route recommendation system with RFID (Tsai & Chung, 2012) could also improve



the overall visiting experiences that enhance visitors' satisfaction.

Additionally, offering higher degrees of functional experiences based on usefulness and usability could be effective in enhancing HK visitors' experiences, especially among the younger males. According to the HKDL (2019), the main target segments are families and young adults. Considering the younger males are the potential markets, the HKDL could put more focus on this segment for future implementations of advanced technologies. Results of the current study illustrated the significance of social influences on younger males, the HKDL could also create better experiences for families. Proposed by Zambetta et al. (2020), the AR games for theme park queues could enhance the engagement among families. More interactions could achieve a higher level of satisfaction, therefore, facilitate the spreading of positive word-of-mouth towards the younger males (Wang et al., 2017).

Aiming at increasing the number of arrivals to the HKDL, the park can focus more on convenience and time-saving attributes when implementing AR and RFID. Upon the queue management and navigation, the merchandising services in souvenirs shops and photo-taking booths are also vital to maintain visitors' experiences (Dong & Siu, 2013). Consequently, AR configuration tools suggested by Mourtzis (2018) for product customizations and 'magic mirror' for virtual fitting using the combination of RFID and AR from Melià-Seguí et al. (2013) will be practical to fulfill the needs on efficiency. The suggested measures are perceived to be effective in improving the visiting experiences and attendance rate of the HKDL.

#### *Limitations and future research*

There are two limitations to the present study. The first limitation regards the chosen samples and sample size, which were the ninety HK visitors. Considering that the HKDL not only targeted on domestic visitors but also aimed at attracting international visitors (HKDL, 2019), the chosen samples may not be comprehensive enough to represent the possibilities of implementing the AR and RFID under technology acceptance and also the perceived AR and RFID functions in the HKDL. Furthermore, the age ranges and online data collection procedure can issue the bias results. Future research is recommended to cover a greater range of nationalities and age group including non-social media users so as to enhance the quality of data generalization and comprehensiveness of the research.

#### **References**

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Alalwan, A. A., Baabdullah, A. M., Rana, N. P., Tamilmani, K., & Dwivedi, Y. K. (2018). Examining adoption of mobile internet in Saudi Arabia: Extending TAM with perceived enjoyment, innovativeness and trust. *Technology in Society*, 55, 100-110.
- Ali, F., Kim, W. G., Li, J., & Jeon, H. M. (2018). Make it delightful: Customers' experience, satisfaction and loyalty in Malaysian theme parks. *Journal of Destination Marketing & Management*, 7, 1-11.
- Baabdullah, A. M. (2018). Consumer adoption of Mobile Social Network Games (M-SNGs) in Saudi Arabia: The role of social influence, hedonic motivation and trust. *Technology in Society*, 53, 91-102.

- Başarangil, İ. (2018). The relationships between the factors affecting perceived service quality, satisfaction and behavioral intentions among theme park visitors. *Tourism and Hospitality Research*, 18(4), 415-428.
- Bilbao, R. (2017, June 28). *Universal patent details use of augmented-reality goggles in rides*. Orlando Business Journal. <https://www.bizjournals.com/orlando/news/2017/06/28/universal-patent-details-use-of-augmentedreality.htm>
- Buonincontri, P., & Micera, R. (2016). The experience co-creation in smart tourism destinations: a multiple case analysis of European destinations. *Information Technology & Tourism*, 16(3), 285-315.
- Cai, Z., Fan, X., & Du, J. (2017). Gender and attitudes toward technology use: A meta-analysis. *Computers & Education*, 105, 1-13.
- Cheung, C. M., & Lee, M. K. (2010). A theoretical model of intentional social action in online social networks. *Decision Support Systems*, 49(1), 24-30.
- Chu, W. (2018, October 12). *Five reasons why amusement parks should use RFID wristbands*. Wristbands. <https://www.wristbands.com/blogs/blog/amusement-parks-rfid-wristbands>
- Chung, N., Han, H., & Joun, Y. (2015). Tourists' intention to visit a destination: The role of augmented reality (AR) application for a heritage site. *Computers in Human Behavior*, 50, 588-599.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340.
- Delaney, R., Strough, J., Parker, A. M., & De Bruin, W. B. (2015). Variations in decision-making profiles by age and gender: A cluster-analytic approach. *Personality and Individual Differences*, 85, 19-24.
- Dong, P., & Siu, N. Y. M. (2013). Servicescape elements, customer predispositions and service experience: The case of theme park visitors. *Tourism Management*, 36, 541-551.
- Dulle, F. W., & Minishi-Majanja, M. K. (2011). The suitability of the Unified Theory of Acceptance and Use of Technology (UTAUT) model in open access adoption studies. *Information Development*, 27(1), 32-45.
- Efthymiou, D., & Antoniou, C. (2012). Use of social media for transport data collection. *Procedia-Social and Behavioral Sciences*, 48, 775-785.
- ELE Times. (2020, January 16). *Massive adoption of technology in theme parks*. <https://www.eletimes.com/massive-adoption-of-technology-in-theme-parks>
- Elliott, C. (2020, March 15). *Does the travel industry have a future?* Forbes. <https://www.forbes.com/sites/christopherelliott/2020/03/15/does-the-travel-industry-have-a-future/#55f6dfe82367>
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading, MA: Addison-Wesley.
- Goswami, A., & Dutta, S. (2015). Gender differences in technology usage—A literature review. *Open Journal of Business and Management*, 4(1), 51-59.
- Guo, J., Zhang, C., & Zhang, X. (2016). Smart queue system based on RFID technology for theme park. In *2016 7th IEEE International Conference on Software Engineering and Service Science (ICSESS)* (pp. 1002-1004). IEEE.
- Hall, C. M., & Williams, A. M. (2019). *Tourism and innovation*. Routledge.
- Hassan, A., & Shabani, N. (2017). Usability analysis of augmented reality for tourism destination image promotion. In Dixit, S. K. (Ed.), *The Routledge Handbook of Consumer Behaviour*

- in Hospitality and Tourism* (pp. 434-442). Routledge.
- Hassannia, R. (2014). *The multipurpose application of radio frequency identification (RFID) in the tourism industry: On a requirement analysis for employing RFID technology in the hotel sector* (Master's thesis, Eastern Mediterranean University (EMU)).
- Hozak, K. (2012). Managerial guidance for applying RFID in the tourism industry. *Interdisciplinary Journal of Contemporary Research in Business*, 4(2), 18-30.
- Huang, Y. C., Backman, K. F., Backman, S. J., & Chang, L. L. (2016). Exploring the implications of virtual reality technology in tourism marketing: An integrated research framework. *International Journal of Tourism Research*, 18(2), 116-128.
- Huang, Y. C., Backman, S. J., Backman, K. F., & Moore, D. (2013). Exploring user acceptance of 3D virtual worlds in travel and tourism marketing. *Tourism Management*, 36, 490-501.
- Joe, S., Kim, J., & Zemke, D. M. V. (2020). Effects of social influence and perceived enjoyment on kiosk acceptance: A moderating role of gender. *International Journal of Hospitality & Tourism Administration*, 1-28.
- Jung, T. H., Lee, H., Chung, N., & Tom Dieck, M. C. (2018). Cross-cultural differences in adopting mobile augmented reality at cultural heritage tourism sites. *International Journal of Contemporary Hospitality Management*, 30(3), 1621-1645.
- Jung, T., Chung, N., & Leue, M. C. (2015). The determinants of recommendations to use augmented reality technologies: The case of a Korean theme park. *Tourism Management*, 49, 75-86.
- Kaushik, A. K., Agrawal, A. K., & Rahman, Z. (2015). Tourist behaviour towards self-service hotel technology adoption: Trust and subjective norm as key antecedents. *Tourism Management Perspectives*, 16, 278-289.
- Kim, J. S. (2016). An extended technology acceptance model in behavioral intention toward hotel tablet apps with moderating effects of gender and age. *International Journal of Contemporary Hospitality Management*, 28(8), 1535-1553.
- Legislative Council of Hong Kong. (2018). *Update on Hong Kong Disneyland Resort* [PDF file]. <https://www.legco.gov.hk/yr17-18/english/panels/edev/papers/edev20180226cb4-599-5-e.pdf>
- Li, T., & Chen, Y. (2019). Will virtual reality be a double-edged sword? Exploring the moderation effects of the expected enjoyment of a destination on travel intention. *Journal of Destination Marketing & Management*, 12, 15-26.
- Lwoga, E. T., & Lwoga, N. B. (2017). User acceptance of mobile payment: The effects of user-centric security, system characteristics and gender. *The Electronic Journal of Information Systems in Developing Countries*, 81(3), 1-24.
- Marr, B. (2017, August 24). *Disney uses Big Data, IoT and machine learning to boost customer experience*. Forbes. <https://www.forbes.com/sites/bernardmarr/2017/08/24/disney-uses-big-data-iot-and-machine-learning-to-boost-customer-experience/#6b4208233387>
- Melià-Seguí, J., Pous, R., Carreras, A., Morenza-Cinos, M., Parada, R., Liaghat, Z., & De Porrata-Doria, R. (2013). Enhancing the shopping experience through RFID in an actual retail store. In *Proceedings of the 2013 ACM Conference on Pervasive and Ubiquitous Computing Adjunct Publication* (pp. 1029-1036). New York: Association for Computing Machinery.
- Milman, A., Li, X., Wang, Y., & Yu, Q. (2012). Examining the guest experience in themed amusement parks: Preliminary evidence from China. *Journal of Vacation Marketing*, 18(4), 313-325.

- Morrison, A. M. (2013). *Marketing and managing tourism destinations*. Routledge.
- Mourtzis, D. (2018). Design of customised products and manufacturing networks: towards frugal innovation. *International Journal of Computer Integrated Manufacturing*, 31(12), 1161-1173.
- Nayyar, A., Mahapatra, B., Le, D., & Suseendran, G. (2018). Virtual reality (VR) & augmented reality (AR) technologies for tourism and hospitality industry. *International Journal of Engineering & Technology*, 7(2.21), 156-160.
- Ocampo, A. J., & Palaoag, T. (2019). Improving tourism experience in open data environment with mobile augmented reality: Needs and challenges. *IOP: Conference Series: Materials Science and Engineering* 482(1), 1-7.
- Ozturk, A. B., & Hancer, M. (2015). The effects of demographics and past experience on RFID technology acceptance in the hospitality industry. *International Journal of Hospitality & Tourism Administration*, 16(3), 275-289.
- Parise, S., Guinan, P. J., & Kafka, R. (2016). Solving the crisis of immediacy: How digital technology can transform the customer experience. *Business Horizons*, 59(4), 411-420.
- Qu, K. (2017). The impact of experience on satisfaction and revisit intention in theme parks: An application of the experience economy. *Graduate Theses and Dissertations of the IOWA State University*. <https://lib.dr.iastate.edu/etd/15609>
- Quazi, A., & Talukder, M. (2011). Demographic determinants of adoption of technological innovation. *Journal of Computer Information Systems*, 52(1), 34-42
- Rapoza, K. (2019, June 12). *China developers building six flags – sized gamer theme park*. Forbes. <https://www.forbes.com/sites/kenrapoza/2019/06/12/china-developers-building-six-flags-sized-gamer-theme-park/#297552b174ab>
- Revfine. (n.d.). *7 key technology trends emerging in the travel & tourism industry*. <https://www.revfine.com/technology-trends-travel-industry/>
- Roy, S. K., Balaji, M. S., Quazi, A., & Quaddus, M. (2018). Predictors of customer acceptance of and resistance to smart technologies in the retail sector. *Journal of Retailing and Consumer Services*, 42, 147-160.
- Tsai, C. Y., & Chung, S. H. (2012). A personalized route recommendation service for theme parks using RFID information and tourist behavior. *Decision Support Systems*, 52(2), 514-527.
- Tsang, D. (2019a, February 18). Hong Kong Disneyland Resort posts loss for fourth straight year – despite higher visitor numbers reducing deficit to HK\$54 million. *South China Morning Post*. <https://www.scmp.com/news/hong-kong/hong-kong-economy/article/2186633/more-visitors-helps-hong-kong-disneyland-resort>
- Tsang, D. (2019b, November 8). Hong Kong protests could end up costing Disneyland US\$135 million in lost income for final six months of the year. *South China Morning Post*. <https://www.scmp.com/news/hong-kong/hong-kong-economy/article/3036882/hong-kong-protests-could-end-costing-disneyland>
- Vasavada, M., & Padhiyar, Y. J. (2016). “Smart Tourism”: Growth for tomorrow. *Journal for Research*, 1(12), 55-61.
- Venkatesh, V. (2000). Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model. *Information Systems Research*, 11(4), 342-365.
- Venkatesh, V., & Bala, H. (2008). Technology acceptance model 3 and a research agenda on interventions. *Decision Sciences*, 39(2), 273-315.

- Wang, T., Tran, P. T. K., & Tran, V. T. (2017). Destination perceived quality, tourist satisfaction and word-of-mouth. *Tourism Review*, 72(4), 392-410.
- Wei, W., Qi, R., & Zhang, L. (2019). Effects of virtual reality on theme park visitors' experience and behaviors: A presence perspective. *Tourism Management*, 71, 282-293.
- Yang, K., & Lee, H. J. (2010). Gender differences in using mobile data services: utilitarian and hedonic value approaches. *Journal of Research in Interactive Marketing*, 4(2), 142-156.
- Zambetta, F., Raffe, W., Tamassia, M., Mueller, F. F., Li, X., Quinten, N., Patibanda, R., Dang, D., & Satterley, J. (2020). Reducing perceived waiting time in theme park queues via an augmented reality game. *ACM Transactions on Computer-Human Interaction (TOCHI)*, 27(1), 1-30.

# **The impact of Internet of Things (IoT) on customer experience in the hotel industry**

*Chun Yin Harrison Chiu & Chun Man Bruce Tsui*

## **Abstract**

Internet of Things (IoT) is getting popular these days. Hotel is a hospitality service industry which the customer experience and retention is critical for its long term operation. Hotels may be benefited from the technology advancement in the keen competition by increasing its competitive advantage through value-added service.

This study was conducted in a quantitative approach, as to investigate the impact of IoT on customer experience in the hotel industry. It has shown a positive relationship on the application of IoT regarding customer experience of the hotel industry. Furthermore, the research also discovered perceptions of customers on applying IoT in the hotel. Result and recommendations are insightful for the hotel industry and information & communication technology industry on the future development of IoT in the hotel industry.

**Key words:** Internet of Things, IoT, Hotels, Customers experience

## **1. Introduction**

### **1.1 Background of Research**

Internet of Things (IoT) is a concept raised by the Radio Frequency Identification Development community in 1999. The popularize of mobile devices and network communication has boosted the application and development of IoT (Patel & Patel, 2016). IoT has been widely used in different areas of hotels, including guest-facing system, in-room sensor and hospitality services. (Kansakar, Munir & Shabani, 2018). In the view of the 5G development and its application on IoT, it will be able to provide seamless and quality service to the user, as well as fostering communication with customers. (Groupe Speciale Mobile Association, 2019).

Hotel is a service industry which emphasis on experience. It is important for a hotel operator to provide a quality service for higher customer satisfaction and to compete in the market (Nobar & Rostamzadeh, 2018). Therefore, review IoT as one of the value-added experience for guests should be conducted.

Current studies have shown the application of technologies and IoT in the hotel industry with its impertinence (Kansakar, Munir & Shabani, 2018) and the cost advantage of adopting IoT (Patel & Patel, 2016). There is a lack of studies focusing on customer perception, experience and influence with the adaptation of IoT technology. This study aims to fill in the gap of the research on the relationship between IoT and hotel customer experience from the customer's perspective.

### **1.2 Objective of the study**

The purpose of the study is to gain a better understanding of how IoT technology is beneficial to the hotel industry and whether IoT is successfully connected with customer satisfaction. The focus

of the study will be the relationship between IoT and customer experience. Therefore, the objectives of the study are:

1. To explore the current application of IoT in hotel industry
2. To analyze the customer perception on IoT application in hotel industry
3. To examine the influence towards customer experience when adopting IoT in hotel industry

By achieving the above objectives, a comprehensive understanding of the customer perception and various IoT application for the hotel industry can be suggested. The level of influence can also be examined as a reference to heighten the customer experience.

### **1.3 Significance/Expected contribution of the study**

Theoretically, the study aims to fill in the existing gap of the relationship between IoT and customer experience in the hotel industry. There are many existing articles and research studies indicated the importance of IoT toward the hospitality organization in a cost advantage view but there is limited study regarding specifically the application of IoT in the hotel customer touchpoint and the impact on customer experience.

For the managerial implication, the study will review the use and the influences of IoT in the hotel industry. Meanwhile, the study also aims to contribute to two involved industries, including hotel industry and information & communication technology industry. From the perspective of the hotel industry, the study shows to what extent the IoT application affecting the customer experience, especially for the brand which have not applied yet. In the view of information & communication technology industry, the study may bring inspiration to future development on IoT application for hotel industry specifically for enhancing customer experience.

Generally speaking, the study may be a reference for hotel operator on decision making for IoT development as a value added-item in the hotel.

## **2. Literature review**

### **2.1 Internet of Things (IoT)**

Internet of Things (IoT) commonly defined as the network of the physical object. It is a network connecting all the devices with different size and type. The device within the network will be communicating with each other by itself during the information sharing process. (Patel & Patel, 2016; Kansakar, Munir & Shabani, 2018). Patel & Patel (2016) also suggests that IoT are defined into three types, including (1) People to People, (2) People to Things/machine and (3) Things/machine to Things/machine, interacting through internet. IoT also provides a foundation for the development of smart building (Kansakar, Munir & Shabani, 2018).

### **2.2 The application of Internet of Things (IoT) in hotel industry and its importance**

Serra et al. (2014) write that IoT will foster new applications, such as monitoring environment, healthcare issue and energy management, for instance, IoT will be contributing to the HVAC system of the hotel. Kansakar, Munir & Shabani (2018) suggests guest-facing systems are also

adaptable. For example, in-room tablet is the primary touchpoint for interaction between the guests and the hotel. Kasavana (2014) writes that the hospitality organization will be able to enhance the guest experience and gain a competitive advantage when the organization connects its hardware and software, such as devices, sensors, application, cloud services and business intelligence. According to Chatterjee, Myneni & O'Connor (2016), hotels that strengthen IoT-driven information, design and service offered will be significantly ahead of their competition in providing their customers with a better hotel stay experience.

### **2.3 Customer experience**

Customer experience is a process of observation in an experiencing journey that includes the service encounters, during service delivery and the post-delivery of services (Khan, Garg & Rahman, 2015). Customer experience is defined as client experience quality as its clear superiority or greatness, and the client's subjective response to the unknown experience and full interaction with the organization (Nobar & Rostamzadeh, 2018).

There are 5 dimensions of the hotel guests experience suggested by McIntosh & Siggs (2005), including unique character, personalization, homely, of quality and value-added. It provided the foundation as an indicator for measurement of the level of customer experience. A well-developed customer experience management will be key to achieve customer retention. (Suryawanshi, 2013).

### **2.4 Conceptual Framework**

There are 2 hypothesis established before the research. It is in response to the research objectives and shall be tested in the primary research.

- $H_1$ : Customer will have a positive perception on IoT in hotel industry.
  - $H_{1a}$ : Customer will have a positive perception of Rate of Hotel on IoT in hotel industry.
  - $H_{1b}$ : Customer will have a positive perception of Service Quality on IoT in hotel industry.
  - $H_{1c}$ : Customer will have a positive perception of Convenience on IoT in hotel industry.
  - $H_{1d}$ : Customer will have a positive perception of Experience on IoT in hotel industry.
  - $H_{1e}$ : Customer will have a positive perception of Personalization on IoT in hotel industry.
  - $H_{1f}$ : Customer will have a positive perception of More Expensive on IoT in hotel industry.
- $H_2$ : IoT will bring a positive impact to the hotel industry.



The figure below shows the relationship of the hypothesis.

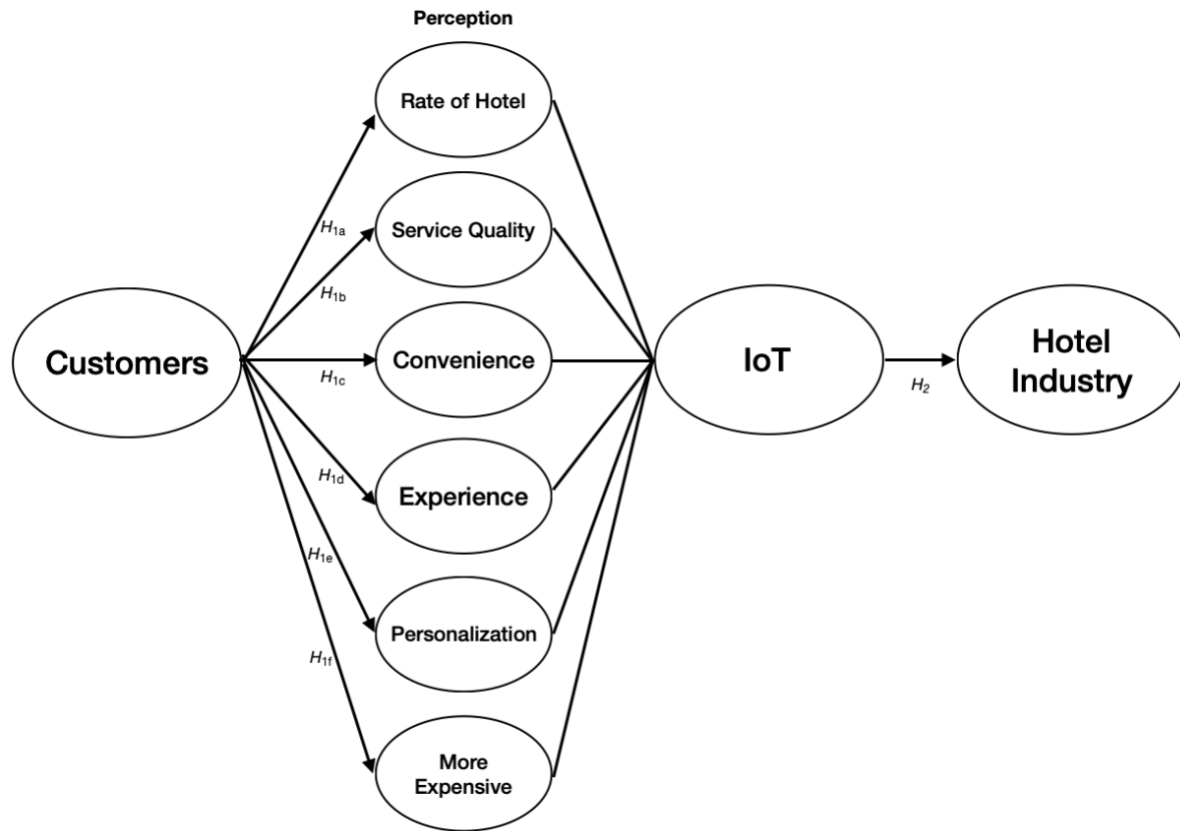


Figure 1: Conceptual Framework

### 3. Methodology

#### 3.1 Research Instrument

A questionnaire consisted of 19 questions of quantitative approach, was adopted as the research instrument.

The first purpose of the survey was to analyze respondents' perception as a customer on IoT application in a hotel. It is in terms of the perception of equipment equipped, price, rating of the hotel, convenience, service quality and personalization. The second purpose of the study was to examine the influence towards customer experience when adopting IoT. The area of examine will be in terms of the preference for choosing the hotel adopting IoT technology and the intension of visit and re-visit. It also reviews the cost-price benefit measurement by guests.

#### 3.2 Data Sampling and Collection

The survey was distributed online to 55 hotel guests, meaning any people who have visited hotel(s) and enjoyed overnight hotel services in the past 12 months. The survey did not give any restrictions on the country or area which the respondent visited and enjoyed overnight hotel services. Thus, an

online questionnaire is a suitable approach for reaching the target on the internet.

### 3.3 Data Analysis

Descriptive statistics were used for demographic characteristics of respondents, respondents' interest in IoT application in a hotel, the worthiness of extra spending for IoT equipment and respondents' perception of IoT application in the hotel. It is to understand the distribution of the above measurements.

One-way ANOVA was used to examine the various perceptions of the customer by age and education respectively. It aimed to test whether there is any mean difference of response groups having the different demographic characteristic. Both of the measurement can serve as a purpose to analyze respondents' perception as a customer on IoT application in the hotel.

Multiple regression was also used to examine the cause-effect of IoT and visit/re-visit intention. It is to examine the influence on customer experience when adopting IoT.

## 4. Result

### 4.1 Demographic characteristics of respondents

Most respondents are of the age between 15-24 years old (n=36, 62.1%) and 25-34 years old (n=12, 20.7%). 51.7% of respondents are female (n=30) and 48.3% are male (n=28). For the level of education, most of the respondents are holding a Bachelor's Degree (n=33, 56.9%) and followed by the Secondary School/Associates Degree (n=17, 29.3%). 13.8% of respondents holding Master Degree (n=8).

### 4.2 Respondents' experience on IoT application in hotel

There are 4 equipment included as the IoT application. The equipment interested by most respondents is Mobile Room Keys (n=48, 82.8%). Followed by the In Room Tablet/Smart Control Device (n=34, 58.6%). The equipment saw by most respondents is In Room Tablet/Smart Control Device (n=39, 67.2%). Followed by the Self-Check in/out Kiosk (n=22, 37.9%). The equipment used by most respondents is In Room Tablet/Smart Control Device (n=34, 58.6%).

### 4.3 Worthiness of extra spending for IoT Equipment

Table 1 describes the respondents' perception of worthiness on spending extra for staying in the hotel equipped with IoT equipment. 77.6% of respondents think it is worth to pay more to stay in a hotel with IoT equipment (n=45) while 22.4% of respondents do not think it is worth to pay more to stay in a hotel with IoT equipment (n=13).

Table 1 also describes how much did the respondents are willing to pay more to stay in the hotel with IoT equipment if the respondent thinks it is worth to pay more. 48.8% of respondents indicated that they are willing to pay 1%-10% extra for staying in the hotel with IoT equipment

(n=22).

#### 4.4 Respondents' perception on IoT application in hotel

For the impression of Rating, the majority of respondents agree (n=38, 65.5%) that they will have a better impression in terms of Rating for the hotel equipped with IoT equipment. 25.9% of respondents strongly agree (n=15) the above statement.

For the impression of Service Quality, majority of respondents agree (n=42, 72.4%) that they will have a better impression in terms of Service Quality for the hotel equipped with IoT equipment. There are same number of respondents are neutral or strongly agree the above statement (n=8, 13.8%).

For the improved experience, 53.4% of the respondents agree that hotel equipped with IoT equipment will improve their customer experience (n=37). 25.9% of the respondents strongly agree the above statement (n=15).

For the convenience, 63.8% of the respondents agree that hotel equipped with IoT equipment will bring them convenience (n=31). 36.2% of the respondents strongly agree the above statement (n=21).

For personalization, 51.7% of the respondents agree that IoT application in a hotel will bring personalization (n=30). 25.9% of the respondents strongly agree the above statement (n=15).

For the perception of expensiveness, 53.4% of the respondents agree that hotel equipped with IoT equipment will be more expensive (n=31). 19% of the respondents strongly agree the above statement (n=11).

#### 4.5 ANOVA result of perception of customer by Education level

Table 2 explains the mean difference of perception of the customer by education level. There is a mean difference in customer's perception of expensiveness. (F-value=3.34,  $p < 0.04$ ). Customer with Master education (mean=3.25) disagrees that hotel with IoT application will be more expensive compare with the customer with Secondary School/Associates Degree education level (mean=3.59). Compare with the above, the customer with a Bachelor's Degree education level are more likely to agree hotel equipped with IoT will be more expensive (mean=4.03). In contrast, there are no significant mean differences in the perception of the customer by education level.

#### 4.6 ANOVA result of perception of customer by Age

Table 3 explains the mean difference of perception of the customer by age. From the ANOVA test, there is no significant mean difference in customer's perception by age.

#### 4.7 Perception of IoT towards customers' visit intention

The multiple regression results of perception of IoT towards customers' visit intention is explained

in Table 4. Six variables of customer perception indicate the regression values on visitations ( $R^2 = .29$ , adjusted  $R^2 = .20$ , F-value = 3.51,  $p < 0.01$ ). the factor of personalization influences tourist's visit intention (unstandardized B = -.44,  $p < 0.01$ ). Moreover, the factor of customer experience is positively significant on customers' visit intention (unstandardized B = 0.54,  $p < 0.01$ ). Other perception (rating, service quality, convenience and expensiveness) have no significant impact on customers' visit intention ( $p > .05$ ).

#### 4.8 Perception of IoT on customer re-visit intention

The multiple regression results of perception of IoT towards customers' re-visit intention is explained in Table 5. Six variables of customer perception indicate the regression values on visitations ( $R^2 = .40$ , adjusted  $R^2 = 0.06$ , F-value = 1.63,  $p < 0.05$ ). the factor of customer experience is positively significant on customers' re-visit intention (unstandardized B = 0.63,  $p < 0.05$ ). Other perception (rating, service quality, convenience, personalization and expensiveness) have no significant impact on customers' re-visit intention ( $p > .05$ ).

### 5. Discussion and conclusion

#### 5.1 Discussion

Overall, the result has shown a positive impact of IoT application on customer experience. The result also demonstrated a positive attitude of the response towards the IoT application.

##### 5.1.1 Perception on IoT in hotel industry

The study results indicate that respondents perceive a positive attitude towards IoT equipment. Three out of 4 listed examples of IoT equipment (i.e. Self-check-in out Kiosk, Mobile Room Key and In-room Tablet/Smart Control Device) are interested in a half or more than half of the respondents. It has proven that the majority of respondents are interested in IoT equipment.

The result also raises which IoT application is most interested in. Mobile Room Key has the highest number of respondents interested but it is not seen and used by most of the respondents. It is believed that the reason for that because of the popularity of smartphones. According to the Census and Statistics Department (2018), 89.8% of the population in Hong Kong acquire smartphone. It shows that smartphone is popular in Hong Kong and it may become the reason for the above result.

In general, the result shows that respondents perceive a relatively positive perception for every factor included in the IoT application in the hotel industry. The respondents have a different level of agreement on what IoT can offer, for instance, IoT will bring a better impression in terms of rating and service quality on the hotel, improving the experience received by the respondents, providing convenience and personalization to the customer. Meanwhile, more than half of the respondents also agreed that the hotel equipped with IoT equipment will be more expensive. However, majority of the respondents (77.6%) are willing to pay more for such experience. Near half (48.9%) of the respondents are willing to pay 1%-10% extra and the remaining are willing to pay more than the above amount. It has proven that although the customers agreed that the hotel with IoT is more expensive, they are willing to spend at least 1%-10% more for staying in the hotel.

with IoT equipment. In this regards, objective 2 has been responded.

### **5.1.2 Differences in perception by Education Level and Age**

There is a significant finding that respondents holding Master degree are more likely to disagree with the hotel with IoT equipment are more expensive compare with respondents holding other education qualification. It is believed that it possibly related to income as higher-income usually allows flexibility on spending. According to the Census and Statistics Department (2019), the median monthly wage who attained tertiary education is higher than who attained secondary education for HK\$10,800. It is also known the education level and wages earning are interrelated which higher education level will usually lead to higher earning (Graham & Paul, 2010). The remaining perceptions have no significant differences. Therefore, it is possibly related to personal preference instead of education level.

However, there is no significant mean difference in customer's perception by age. It reflected that age is not a determining factor for considering hotel with IoT. The possible reason is because of the popularity of the technology, which covering different ages. Census and Statistics Department (2017) also indicated that internet and technology equipment (personal computer and smartphone) are getting more prevalent. Therefore, the research has shown such results.

### **5.1.3 IoT application towards customers visit and re-visit intention**

The primary research agreed that IoT in the hotel will be able to provide a more personalized experience to the customers. The result also indicated that the factor of personalization is positively related and influencing customers' visit intention. It is a concerning factor for customers' decision making for accommodation. It also proved that customers who value personalization will have a higher acceptance of IoT application in the hotel industry. Meanwhile, customer experience is positively significant on customers' visit intention. Customer will value their experiences for staying in a hotel with IoT equipment. It shows that improved customer experience will increase customer visit intention. The research also studied the perception of IoT influencing customers' re-visit intention. The Result shows that the factor of customer experience is positively related and influencing customers' re-visit intention. It has proven that customer experience will be an important factor related to customers' visit and re-visit intention. In this regards, the objective 3 of the research is being responded.

## **5.2 Recommendations**

The result of the primary research shows that IoT will bring a positive impact on customer experience in hotel industry. The following recommendations are given on the development of IoT associate with the hotels operation.

### **5.2.1 Incorporation of IoT equipment with smartphone devices**

From the result of the experiencing IoT equipment, the most interested equipment is Mobile Room Key. The customers are interested in Mobile Room Key but they actually have no experience in seeing or using it. The rationale behind is, the integration with smartphone devices are interested

in the customers. It can be the first step of developing IoT in a hotel. It will be easier to accept by the customer who does not have experience in IoT application in a hotel previously. With the development of 5G technology leading to a faster internet connection and lower network latency (Parvez et al., 2018), hotels operators and technology developers may consider to incorporate more IoT equipment with the smartphone based on the advanced network development and to arouse potential customers' interest. It may possibly boost the hotel occupancy rate as a result of customers' curiosity on new technological development. However, data and transmission security need to be considered. It may possibly contain personal or organizational information. Therefore, it needs to process with care.

### **5.2.2 Room rate charges**

Adopting IoT is possible to charge a higher room rate. It is agreed by the customers in the research that hotels with IoT will be more expensive. Therefore, hotels operators are entitled to adjust their pricing strategy if adopting IoT in the hotel. It is because the customers are willing to pay a higher price for the experience in hotel applied IoT. It should be in a range which is widely accepted by the customers. Developing IoT is an investment in the hotel but equipping IoT in the hotel is possible to charge a higher price in order to achieve a faster and higher return on investment.

### **5.2.3 Solution for increase visit and re-visit intention**

Adopting IoT will be one of the solutions for increasing customers to visit and re-visit intention. The study shows that customer experience is critical for both visit and re-visit intention. As a service industry, hotels operators should consider enhancing its experience provided to customers to reach a higher occupancy and retention rate. Adopting IoT in the hotel is one of the ways to enhance personalization and service quality effectively. It should also be considered as a value-added service for bringing an enhanced experience to the customer. IoT will be contributing positive effects to the customer experience. While adopting the above measure, it should consider the target customers' preference and the availability of the resource in the hotel.

## **5.3 Conclusion**

The research has discovered the impact of the Internet of Things (IoT) on the customer experience in the hotel industry. From the primary and secondary research, it has shown that there is a positive impact on customer experience for adopting IoT in the hotel industry. The study has explored various applications and examples of IoT. It also analyzed customer perception in different factors, which the result is relatively positive. Most importantly, the influence on customer experience toward visit and re-visit is tested to be positive. It can be interpreted as IoT technology is beneficial to the hotel industry. Meaningful managerial recommendations with caution items were given to both the hotel industry and the information technology industry.

### **5.4 Limitation of the study**

There are limitations on the study. First, the primary research provided insight for IoT application in the hotel industry but it was in a general view instead of focusing on a single brand or a hotel

chain. The practical situation may vary on different brand's situation due to different variables such as corporate strategy, brand positioning, pricing strategy and target customer group. Second, the sample size is not large enough to present a comprehensive view and averaged demographic distribution. It may not reflect the opinion of a certain group with specified demographic characteristics.

### 5.5 Suggestion for future research

As future work, more detailed and comprehensive research can be done. it can be conducted with a qualitative approach to study the reasons for customer choosing a hotel with IoT, and the rationale of their purchase decision. Follow up questions should be asked to investigate the in-depth relationship and connection towards the attributes of IoT equipment and the customers' experience and satisfaction. It can contribute to the understanding of the customers' attitude and preference on IoT, and as a feasibility study of developing IoT in particular hotel brand.

## References

- Berry, L. L., Carbone, L. P. & Haeckel, S. H. (2002). Managing the Total Customer Experience. *MIT Sloan Management Review*, 43 (3), 1-6.
- Census and Statistics Department (2017). *Usage of Information Technology and the Internet by Hong Kong Residents* | Census and Statistics Department. Retrieved from The Government of the Hong Kong Special Administrative Region, Census and Statistics Department Web site:  
<https://www.censtatd.gov.hk/hkstat/sub/sp120.jsp?productCode=FA100109>
- Census and Statistics Department (2018). *Information Technology usage* | Census and Statistics Department. Retrieved from The Government of the Hong Kong Special Administrative Region, Census and Statistics Department Web site:  
<https://www.censtatd.gov.hk/hkstat/sub/gender/itu/index.jsp>
- Census and Statistics Department (2019). *Table E012 : Median Monthly Wage of Employees Analysed by Sex, Age Group, Educational Attainment, Occupational Group and Industry Section* | Census and Statistics Department. Retrieved from The Government of the Hong Kong Special Administrative Region, Census and Statistics Department Web site:  
<https://www.censtatd.gov.hk/hkstat/sub/sp210.jsp?productCode=D5250017>
- Chatterjee, A., Myneni, S. & O'Connor, F. (2016). *Hospitality Upgrade* | *Internet of Things in Hospitality – An Emerging Force*. Retrieved from  
[https://www.hospitalityupgrade.com/\\_magazine/MagazineArticles/Internet-of-Things-in-Hospitality-An-Emerging-Force.asp/](https://www.hospitalityupgrade.com/_magazine/MagazineArticles/Internet-of-Things-in-Hospitality-An-Emerging-Force.asp/)
- Firoiu, D. & Croitoru, A. G. (2015). The Information and Communication Technology – Impact on the Hospitality Industry in Romania. *Ecoforum*, 4 (1), 32-37

- Graham, B. & Paul, C. (2010). *Does higher education really lead to higher employability and wages in the RMI?*. Retrieved from The Government of the Hong Kong Special Administrative Region, Census and Statistics Department Web site: <http://www.pacificweb.org/DOCS/rmi/pdf/Education%20and%20wages.pdf>
- Groupe Speciale Mobile Association (2019). *Internet of Things in the 5G era*. Retrieved from <https://www.gsma.com/iot/wp-content/uploads/2019/11/201911-GSMA-IoT-Report-IoT-in-the-5G-Era.pdf>
- Hilton (2020). *Travellers Staying at Hilton Adelaide Receive Convenient Digital Key Access | Hilton Press Center*. Retrieved from <https://newsroom.hilton.com/hilton/news/travellers-staying-at-hilton-adelaide-receive-convenient-digital-key-access>
- Kansakar, P., Munir, A. & Shabani, N. (2019). Technology in the Hospitality Industry: Prospects and Challenges. *IEEE Consumer Electronics Magazine*, 8 (3), 60-65.
- Kasavana, M. L. (2014). *Hospitality Upgrade | Hospitality Industry: Connecting the Unconnected, The Internet of Everything*. Retrieved from [https://www.hospitalityupgrade.com/\\_magazine/MagazineArticles/Hospitality-Industry-Connecting-the-Unconnected-The-Internet-of-Everything.asp/](https://www.hospitalityupgrade.com/_magazine/MagazineArticles/Hospitality-Industry-Connecting-the-Unconnected-The-Internet-of-Everything.asp/)
- Khan, I., Garg, R. J. & Rahman, Z. (2015). Customer Service Experience in Hotel Operations: An Empirical Analysis. *Procedia - Social and Behavioral Sciences*, 189, 266-274.
- Latif, M. (2018). *The impact of technology on hotel guest experience - Rentokil US Blog*. Retrieved from <https://www.rentokil.com/us/blog/the-impact-of-technology-on-hotel-guest-experience/>
- Mcintosh, A. J. & Siggs, A. (2005). An Exploration of the Experiential Nature of Boutique Accommodation. *Journal of Travel Research*, 80. Kansakar, P., Munir, A. & Shabani, N. (2019). Technology in the Hospitality Industry: Prospects and Challenges. *IEEE Consumer Electronics Magazine*, 8 (3), 60-65.
- Meyer, C. & Schwager, A. (2007). Understanding Customer Experience. *Harvard Business Review*, 85 (2), 116
- Millar, I. (2020). *The Future Of IoT Is At The Edge | By Ian Millar - Hospitality Net*. Retrieved from <https://www.hospitalitynet.org/opinion/4097197.html>
- Nobar, H. B. K. & Rostamzadeh, R. (2018). The Impact of Customer Satisfaction, Customer Experience and Customer Loyalty on Brand Power: Empirical Evidence from Hotel Industry. *Journal of Business Economics and Management*, 19 (2), 417-430.
- O'Connor, P. & Murphy, J. (2004). Research on information technology in the hospitality industry. *International Journal of Hospitality Management*, 23 (5), 473-484.
- Parvez, I., Rahmati, A., Guvenc, I., Sarwat, A. I., & Dai, H. (2018). A survey on low latency



- towards 5G: RAN, core network and caching solutions. *IEEE Communications Surveys & Tutorials*, 20(4), 3098-3130.
- Patel, K. K. & Patel, S. M. (2016). Internet of Things-IOT: Definition, Characteristics, Architecture, Enabling Technologies, Application. *International Journal of Engineering Science and Computing*, 6 (5).
- Reid, J. (2018). *Amazon's Alexa checks into first Marriott hotel - Business Traveller*. Retrieved from <https://www.businesstraveller.com/business-travel/2018/10/27/amazons-alexa-checks-into-first-marriott-hotel/>
- Revfine (2020). *How the Internet of Things (IoT) can Benefit the Hospitality Industry*. Retrieved from <https://www.revfine.com/internet-of-things-hospitality-industry/>
- Romashko, B. (2020). *How a hotel concierge app can make guests happier (and help achieve your business goals) - Insights*. Retrieved from <https://insights.ehotelier.com/insights/2020/02/26/how-a-hotel-concierge-app-helps-achieve-business-goals-and-make-guests-happier/>
- Serra, J., Pubill, D., Antonopoulos, A. & Verikoukis, C. (2014). Smart HVAC Control in IoT: Energy Consumption Minimization with User Comfort Constraints. *The Scientific World Journal*, 2014.
- Suryawanshi, C. R. (2013). Customer Experience Management; A New Dimension To Customer Retention . *International Journal of Management*, 4 (2), 224-226.
- Vermesan, O. & Friess, P. (2013). *Internet of Things: Converging Technologies for Smart Environments and Integrated Ecosystems*. Aalborg: Denmark.
- Xu, J. B. & Chan, A. (2010). A conceptual framework of hotel experience and customer-based brand equity. *International Journal of Contemporary Hospitality Management*, 22 (2), 174-193.
- Yasuda, G. (2017). *New Report from Oracle Hospitality: Creating the Coveted Hotel Guest Experience | Oracle Hospitality Blog*. Retrieved from <https://blogs.oracle.com/hospitality/oracle-hospitality-hotel-guest-experience-research-report>

## TABLES

**Table 1:** Worthiness of respondents spending extra and Amount of extra paying

Characteristics	Frequency	Percentage (%)
Worth to pay more:		

Yes	45	77.6
No	13	22.4
Amount of extra paying		
1%-10%	22	48.9
11-20%	14	31.1
21%-30%	8	17.8
31%-40%	1	2.2

**Table 2:** ANOVA Test on perception by Education level

Perception	Means by Education level			F-ratio	ANOVA (Sig. value)	Comparison
	Secondary School/ Associates Degree (1)	Bachelor's Degree (2)	Master (3)			
Rating	4.18	4.15	4.25	.09	.91	
Service Quality	4.00	4.03	3.88	.27	.76	
Experience	4.06	4.24	4.00	.87	.42	
Convenience	4.29	4.27	4.13	.20	.81	
Personalization	4.18	3.94	3.75	.86	.42	
More Expensive	3.59	4.03	3.25	3.34	.04	

**Table 3:** ANOVA Test on perception by Age

Perception	Means by Age					F-ratio	ANOVA (Sig. value)	Comparison
	15-24 (1)	25-34 (2)	35-44 (3)	45-54 (4)	55-64 (5)			
Rating	4.14	4.25	4.14	5.00	4.00	.65	.62	
Service Quality	3.94	4.17	4.00	4.00	4.00	.37	.82	
Experience	4.19	4.25	4.00	4.00	3.50	.87	.48	
Convenience	4.25	4.33	4.14	5.00	4.00	.50	.73	
Personalization	4.00	4.17	3.57	4.00	4.00	.60	.66	
More Expensive	3.89	3.83	3.14	4.00	4.00	1.08	.37	

**Table 4:** Regression analysis for perception of IoT affecting customer visit intention

Perception	Unstandardized Coefficients		t-value	p value
	B	Standard error		
(Constant)	1.60	.87	1.82	.07
Rating	-.13	.20	-.64	.52

Service Quality	-.12	.20	-.60	.54
Experience	.54	.19	2.73	.00*
Convenience	-.08	.18	-.04	.96
Personalization	-.44	.14	3.14	.00*
More Expensive	-.18	.11	-1.53	.13

\* $p < 0.05$

Adjusted  $R^2 = .20$  ,  $F = 3.51$  , significance  $F = .00$

**Table 5:** Regression analysis for perception of IoT affecting customer re-visit intention

Perception	Unstandardized Coefficients		<i>t</i> -value	<i>p</i> value
	B	Standard error		
(Constant)	2.36	1.10	2.14	.03
Rating	-.03	.26	-.14	.88
Service Quality	.02	.25	.07	.93
Experience	.63	.24	2.55	.01*
Convenience	-.45	.23	-1.95	.05
Personalization	.27	.17	1.56	.12
More Expensive	-.19	.14	-1.30	.19

\* $p < 0.05$

Adjusted  $R^2 = .06$  ,  $F = 1.63$  , significance  $F = .15$