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# A Social Network Analysis of Chinese Tourists' Image of South Korea in Conflict

## Introduction

This study investigates how bilateral political tensions between countries influence the image of a destination country and desire of tourists to visit it. The study is placed into the China-South Korea (ROK) context, where China is a tourist market and South Korea is a vacation destination. After the 1992 amity agreement, tourism between China and South Korea grew in a relatively friendly environment. Chinese arrivals to South Korea steadily increased from 1991 to 2011 (Timothy & Kim, 2015). South Korea ranked the third most popular international destination for Chinese tourists in 2016 (China daily, 2016). However, the deployment of the Terminal High Altitude Area Defense (THAAD) system in South Korea drew a highly negative reaction from China's government and Chinese people. Statistics indicated that Chinese arrivals from March to October in 2017 were 2.38 million, with a decrease of 60.1% compared to the same period in 2016, which resulted in a loss of US \$4.6 billion for South Korean tourism industry (Yonhap, 2017). Before the 2018 Olympic Games, South Korea expected the recovery of Chinese tourist arrivals to be 200,000 during the Games with some promotion methods such as 15-day visa-free policy, but the actual arrivals were around 20,000 (Hinsdale 2018).

The Chinese Foreign Ministry published national security concerns regarding the THAAD system, and the National Tourism Administration alerted tourists to the risks of visiting South Korea on 3rd, March 2017 (CNBC, 2017). In following, Chinese online travel agencies Ctrip and Tuniu stopped providing tours to South Korea, and many airline companies canceled flights to South Korea (Goh, 2017). Though offline travel agencies in Beijing and Shandong resumed sales in November 2017, other cities (e.g., Shanghai) resumed online tour sales only in August of 2018 (Zhang, 2018). Chinese people boycotted products of Korean companies like Hunday and Lotte Mart (Bloomberg News, 2017; Zhong, 2018). For example, a novelist Ayawawa posted "I don't want THAAD to be installed, I won't go to Lotte. I will cancel my trips to South Korea ... every penny we spend is a vote on our future world" on Weibo (Zhang, 2017).

Research on destination image of South Korea indicate that large scale events like, for example, the 2002 World Cup (Kim & Morrison, 2005) or the import of Korean cultural products (Korean wave, or Hallyu) (Hsu & Song, 2012; Zeng et al., 2015) affect how Chinese people perceive South Korea. A recent qualitative study found that the installation of THAAD greatly damaged Chinese tourists' perceived images towards South Korea and led to cancelled trips, especially by very patriotic and risk averse respondents (Juan et al., 2017).

In this particular study, the researchers were interested in to what degree a strong destination brand like South Korea, which is known for its distinctive culture, entertainment, food, cosmetics, and technical advancement, can withstand a strong pressure of negative publicity on one of its main tourist markets. Thus, this study investigates the diversity of image associations that Chinese tourists hold towards South Korea in the context of current conflict. It utilizes network analysis to identify the core-periphery structure of the image; that is, to see which image associations are in the image core (and whether they are largely positive), and whether the negative associations brought in the collective mind of Chinese tourists by national stable and situational animosity entered the core or still on the periphery. Further, the study explores the impact of the network association clusters on Chinese tourists' overall attitude toward South Korea and intention to visit the country in these turbulent times.

## **Study Background**

This study adopts a qualitative-quantitative orientation to study image of South Korea by combining free-elicitation associations of Chinese tourists with their quantitative treatment using content and network analyses. Through decades' of empirical studies on destination images, a need to quantify qualitative data on destination image stands out (Pan & Li, 2011; Stepchenkova & Li, 2012). The long tail pattern found in the linguistic structure of destination image studies indicates that destination image is dominated by a limited number of key associations, but contains a collectively large quantity of phrases in small niches (Pan & Li, 2011). This structure has been quantified with the usage of indicators taken from the biodiversity studies such as image richness, evenness, and dominance (Stepchenkova & Li, 2012). Following the model of brand equity by Keller (1993), such characteristics as association type, favorability, and uniqueness have also been investigated (Stepchenkova & Shichkova, 2017).

Most of quantitative destination image studies are statistics of individual image elements, and neglected the interrelationship and structure within destination images. The correlation and association relationships behind destination image have already attracted researchers' attention (Stepchenkova & Shichkova, 2017). Li and Stepchenkova (2012) improved Echtner and Ritchie's destination image model (1993) by understanding destination image characteristics, features, and attributes as "brand nodes", which are part of a brand associative network. The network analysis root in the graph theory come with a tool kit to quantify destination image structure. The interrelationship of destination images is first visualized as an artificial neural network by Govers, Go, and Kumar (2007). A recent study also utilizes network analysis technique to examine the interconnections and hidden dynamisms of destination image dimensions towards the Caucasus region (Tasci, Khalilzadeh, & Uysal, 2017).

Zach and Gretzel (2012) identified the fitness of the core-periphery structure to study a sparse destination network. Given the long tail distribution characteristic of qualitative data on destination image, this study will explore the core-periphery structure of South Korea's image. David-Negre, Hernández, and Moreno-Gil (2018) put further to utilize the core-periphery subgroup membership as an explanatory variable to understand tourists' expenditure. This study will not only utilize the social network analysis to explore the core-periphery structure of South Korea's country image in the context of bilateral conflicts between South Korea and China, but also go further to detect what image types affect the overall attitude and intention to visit South Korea.

## **Study Design and Data**

This study employed an open-ended question (Q1) to collect the most salient images associated with South Korea and Likert-type questions to obtain favorability scores of those images and respondents' overall image, and intention to visit South Korea (Q2, Q3, Q4, Q5). This study uses respondents' evaluation of overall national image to interpret overall attitude towards South Korea.

Q1: Think about South Korea as a country. What three images (associations) first come to your mind?

Q2: On a scale from 1 (extremely negative) to 7 (extremely positive) indicate how positive each of your three associations is.

Q3: On a scale from 1 (extremely negative) to 7 (extremely positive), Think about South Korea as a country and evaluate its overall national image.

Q4: On a scale of 1 (very low) to 10 (very high), what is your intention to visit South Korea as a tourist in the next 3 years?

Q5: On a scale of 1 (very low) to 10 (very high), what is your intention to visit South Korea for a special event (e.g., Olympic Games)?

The study was carried out in the period of April-June 2018, in cooperation with four Chinese travel agencies, including Huayuan International Travel Agency, China Youth Travel Service, Hengyang Branch of China Travel Service, and the Hengyang Branch of Beijing Four Seasons Best Tour International Travel Service. The online survey was conducted on WeChat and the links to it were sent to the past, current, and potential clients of the agencies. Using the qualifying questions, the recruiting process targeted active Chinese outbound tourists, who had taken a leisure trip (four night or more) outside Mainland China in the past three years or planned to take one in the coming two years. Overall, 1,018 people clicked on the survey link, and 531 qualified respondents provided answers to the image questions. Among them, 63% had already traveled internationally (the median was 3-5 trips in the last 3 years), and 30% had travelled to South Korea. The male-female split was 42% to 58%; 64% were 34 years old or younger.

Altogether, respondents provided 1524 image associations, which were classified under 44 distinctive image codes; the criteria for aggregation were similar meaning (e.g., love drama and soap opera) and low frequency of certain associations. For example, Korean television entertainment programs Infinite Challenge (frequency 1) and Running Man (frequency 2) were classified into the same code “TV shows”. Those 44 image codes were further aggregated into eight main categories: (1) Beauty Industry; (2) Food; (3) Entertainment; (4) Tourism and Environment; (5) Economy; (6) Politics; (7) Negative Affect; and (8) Positive Affect. Their frequencies and calculated favorability scores (Stepchenkova & Shichkova, 2017) are provided in Table 1.

**Table 1.** Frequency and Favorability of Image Category

Image Category	Main Images	Freq	%	Fav
Beauty Industry	Plastic surgery, cosmetics, beauty, and self-presentation	373	24.5	4.65
Food	Kimchi, general food, food type, lack variety, delicious food	263	17.3	5.07
Entertainment	Korean drama, idol culture, TV shows	219	14.4	5.24
Tourism and Environment	Tourism attractions, sports, cleanliness, culture, small island, beauty environment	201	13.2	4.80
Economy	Shopping, fashion & clothing, electronics, manufacturing, development	163	10.7	5.06
Politics	ROK politics, China-ROK, ROK-USA, THAAD, Historic ROK-China relations	136	8.9	3.17
Negative Affect	Arrogant, shameless, masculinity & self-center, poor quality, dishonest...	91	6.0	2.63
Positive Affect	Polite, friendly and enthusiastic, hardworking, diligent & others, good quality...	78	5.1	4.94
Total		1524	100	4.48

Image associations collected through free-elicitation questions were further transformed into relational data to conduct network analysis using UCINET (Borgatti, Everett, & Freeman, 2002) software to reveal the structure of South Korean image in the collective mind of Chinese tourists at a time of strained bilateral relations. Furthermore, linear regression analysis is conducted to

examine what image association influence the overall image of South Korea and intention to visit the country.

## Results

### *Network Analysis*

Each distinctive image code is treated as a node in the network, and the network’s edges connect image codes which appear together in respondent’s answer. The more respondents mention the same two image codes, the greater the strength of association between the two nodes; this strength is quantified as a weight of that particular edge. Thus, a 531 \* 44 matrix is built, where the rows and columns index respondents and image codes, respectively. Then, a 44 \* 44 asymmetric adjacency matrix is built, where the cell values indicate the concurrency of pairwise images.

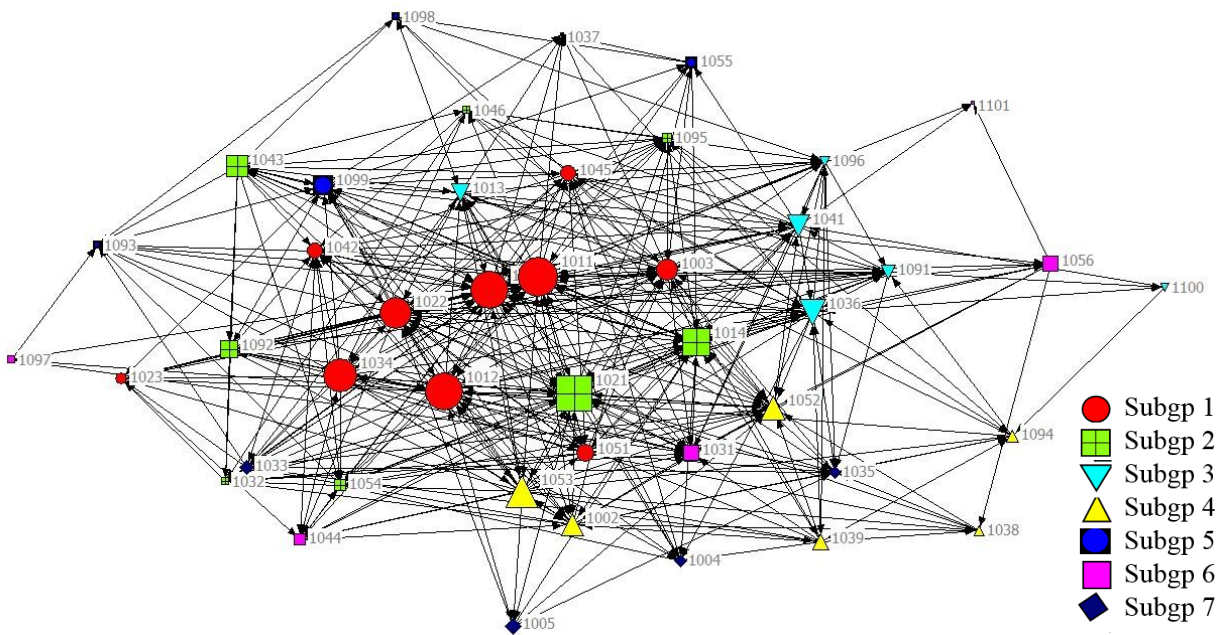
The network has 44 nodes, with a number of 458 actual ties and a density of 0.24. An average geodesic distance between nodes is 3.8 and standard deviation is 8.8. This study first utilized a core-periphery model to classify our 44 nodes into two subgroups based on the degree of coreness, a measure of continuous model fit to indicate how a node is distinguished from others (Borgatti & Everett, 2000). In our case, nodes with the degree of coreness ranged from 0.18 to 0.33 belonged to the core cohesive subgroup. The following image codes were the core members with the degree of coreness: 1011 Plastic surgery (0.33), 1012 Cosmetic (0.31), 1001 Kimchi (0.30), 1021 Korean drama (0.29), 1034 Small island country (0.27), 1022 Korean wave and idol culture (0.26), 1053 Fashion and clothing (0.25), 1014 Beauty (0.22), 1036 Cleanliness (0.19), and 1052 shopping industry (0.18). The remaining 34 image codes make the periphery of the network; image associations that they represent appear in the respondents’ answers together with some of the core associations but rarely appear with other periphery codes.

This study went further to explore the core-periphery structure of the South Korean image with the factions algorithm based on proximities. Faction algorithm computationally optimize clustering into mutually exclusive subgroups using a tabu search minimization procedure (Glover, 1989; 1990). This study ran 5-subgroup to 15-subgroup solutions to identify the optimal clustering result. After comparing each model’s fitness and clustering result, this study chose 7-subgroup result (Table 2). Clustering results were visualized by Figure 1. The color and shape of each node represent its subgroup membership, and the size represents the degree of coreness. For example, node 1011 (plastic surgery) belongs to the first group in a circle symbol with the degree of coreness of 0.33. Subgroup memberships were identified. For instance, the third subgroup is represented by yellow triangles, including 1053 Fashion and clothing, 1052 Shopping industry, 1002 General food, 1039 Other landscape, 1094 Friendly and enthusiastic, and 1038 Crowded, which are interpreted a category of “Travel experience”. Overall, Factions algorithm resulted in seven subgroups and rearranged according to the average degree of each subgroup network: (1) Main images; (2) Drama, beauty, and diplomatic; (3) Cleanliness and Positive affect; (4) Travel experience; (5) Negative affect and manufacturing; (6) Conflict and attraction; and (7) Food and culture.

**Table 2.** Factions Algorithm Clustering Results

Subgp 1(693/4.61)	Subgp 2 (301/4.43)	Subgp 3(141/5.22)	Subgp 4 (168/5.07)	Subgp 5(69/3.19)	Subgp 6 (95/3.83)	Subgp 7(57/5.29)
Core images	Drama, beauty, & diplomatic	Cleanliness & positive affect	Travel experience	Neg affect & manufacturing	Conflict & attraction	Food & culture

Plastic surgery	Poverty	Fashion & clothing	Korean drama	Cleanliness	Negative	Delicious
Cosmetics	Tourism	Shopping industry	Beauty	Nationality	Manufacturing	food
Kimchi	attractions	General food	Historic ROK-	Self-presentation	Shameless	Traditional
Small island country	THAAD	Landscape	China	Polite	Poor quality	culture
Korean wave & idol culture	Not honest	Friendly &	Arrogant	Hardworking ...	Cold weather	Lack food
Food type	Have no idea	Enthusiastic	Electronics	Good quality		variety
Developed country		Crowded	Masculinity &			Beautiful
Politics			self-center			environment
ROK - China			ROK - US			
TV Shows			Sports			
Avg Degree: 6.20	3.13	2.67	2.67	1.20	0.80	0.50
Density: 0.69	0.45	0.53	0.53	0.30	0.20	0.17



**Figure 1.** Seven-subgroup Factions Clustering of South Korea's Image

### Regression Analysis

Regression analyses were conducted to examine the influence of country image types on (1) overall attitude of Chinese people toward South Korea; (2) intention to visit South Korea, and (3) intention to visit South Korea for a special event like an Olympic Games, or similar. Association clusters identified in the network analyses served as predictors (Table 3). Three association clusters are strong predictors of overall national image of South Korea ( $R^2 = 0.10$ ,  $F = 7.81$ ,  $p < 0.001$ ): *Cleanliness and positive affect*, *Food and culture*, and *Negative affect and manufacturing*. Besides the negative effect of *Negative affect and manufacturing*, *Travel experience and Cleanliness and positive affect* associations positively affected respondents' intention to visit South Korea ( $R^2 = 0.07$ ,  $F = 5.89$ ,  $p < 0.001$ ); while *Conflict and attraction* and *Drama, beauty, and diplomatic* associations types negatively affected respondents' intention to visit South Korea for a special event ( $R^2 = 0.04$ ,  $F = 2.96$ ,  $p = 0.005$ )

**Table 3. Regression Results**

	SS	DF	MS	F	p Value
<b>DV: Overall Attitude</b>					
Regression	109.28	7.00	15.61	7.81	0.000
Residual	1045.17	523.00	2.00		
	B	SE of $\beta$	Std. $\beta$	t	p Value
Cleanliness & positive affect	0.44	0.16	0.19	2.72	0.007
Food & culture	0.50	0.22	0.12	2.33	0.020
Negative affect & manufacturing	-0.69	0.19	-0.20	-3.55	0.000
R / R <sup>2</sup> / adj. R <sup>2</sup> = 0.308/ 0.095/ 0.083					
Durbin-Watson = 1.998					
	SS	DF	MS	F	p Value
<b>DV: Intention to Visit</b>					
Regression	281.42	7.00	40.20	5.89	0.000
Residual	3566.83	523.00	6.82		
	$\beta$	SE of $\beta$	Std. $\beta$	t	p Value
Travel experience	0.57	0.30	0.13	1.93	0.054
Cleanliness & positive affect	0.78	0.30	0.18	2.60	0.010
Negative affect & manufacturing	-0.90	0.36	-0.14	-2.50	0.013
R / R <sup>2</sup> / adj. R <sup>2</sup> = 0.270/ 0.073/ 0.061					
Durbin-Watson = 2.037					
	SS	DF	MS	F	p Value
<b>DV: Intention to Visit for a special event (e.g., Olympics)</b>					
Regression	120.79	7.00	17.26	2.96	0.005
Residual	3050.77	523.00	5.83		
	$\beta$	SE of $\beta$	Std. $\beta$	t	p Value
Conflict & Attraction	-0.57	0.31	-0.11	-1.85	0.064
Drama, beauty, & diplomatic	-0.44	0.26	-0.13	-1.70	0.089
Negative affect & manufacturing	-1.02	0.33	-0.18	-3.07	0.002
R / R <sup>2</sup> / adj. R <sup>2</sup> = 0.195/ 0.038/ 0.025					
Durbin-Watson = 2.030					

## Conclusion

From Chinese tourists' perspective, South Korea's images incorporate *Beauty Industry, Food, Entertainment, Tourism and Environment, Economy, Politics, and People Affect*. This study employed a continuous core-periphery model to categorize our 44 image nodes, and further utilized factions algorithm to identify seven image association types, entitled *Core images, Drama, beauty, and diplomatic, Cleanliness and Positive affect, Travel experience, Negative affect and manufacturing, Conflict and attraction, and Food and culture*.

Regression results indicated that *Cleanliness and Positive affect, Food and Culture, Travel Experience* positively affects Chinese tourist' overall attitude and intention to visit South Korea, consistent with previous literature; while bilateral conflicts related components (*Conflict and*

*attraction, Drama, beauty, and diplomatic, and Negative affect and manufacturing*) have significant negative effect on intention to visit South Korea for a specific event such as Olympics. Even though it is hard for tourism industry to affect bilateral relationship, the tourism industry still could provide Chinese tourists with good experience and brand its people's personality and food and culture, to obtain positive images and boost future tourism industry in such a conflict background.

The explanatory power of the image type variables alone is small, and other important variables related to conflict and travel behavior in conflict should be considered. Besides, the effect of Travel Experience, Tourism and Conflicts, and General are marginally significant. Further study may need to strengthen those results. Given the survey period, from March to May 2018, one month after 2018 PyeongChang Winter Olympics, Q5 given a specific event could represent respondents' intention to visit South Korea in current strained bilateral relationship. However, respondents' answers may suffer from emotions towards negative news reports given the controversially disqualified results towards China's team during the women's 3,000 meter short-track speed skating relay (Jie & Wen, 2018).

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